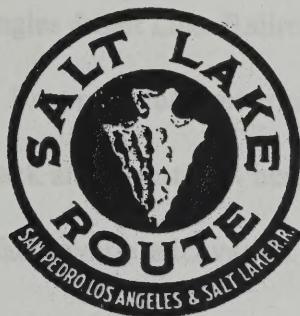




MANAGEMENT SUMMARY

26CK4842: The Archaeology of an SP, LA & SL Railroad Construction Camp in Southern Nevada

HRC Report 5-164-5 of a land exchange between the Bureau
BLM Report 5-2354 (P)



Submitted to:
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MANAGEMENT SUMMARY

During the month of June, 1997, staff from HRC conducted archaeological field investigations at a railroad-related construction camp and siding. The site, 26CK4842, was previously determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion (d). It is scheduled to be impacted as a result of a land exchange between the Bureau of Land Management and Olympic, a real estate development company. Associated with the construction of the San Pedro, Los Angles & Salt Lake Railroad (SP,LA&SL), the site consists of 52 features and 9 trash concentrations. Recorded features include 17 tent pads, a table rock, wagon road, the main and siding railroad track alignments, 28 hearths and 5 domed rock ovens. Surface recording accounted for 2,921 artifacts while excavation of 12 selected features and selective collection amounted to 748 items. Combined archival research and archaeological data recovery was used to address research questions posed for various problem domains including ethnicity, subsistence, site structure and spatial patterning, and technology.

Located on a siding along the Arden to Erie shoo-fly (temporary bypass), the work camp is thought to have been occupied during the winter months of 1904/1905, the shoo-fly having been abandoned in May, 1905. Based on the presence of domed rock ovens and archival evidence stating that the railroad construction crews were ethnically diverse, the camp may have been partially occupied by men of Mediterranean descent. In comparison with five railroad-related construction camps, it is not known what construction function the study site served other than a temporary residential base occupied by up to 112 men; no evidence was found to suggest the presence of women at the camp. High quality cuts of fresh beef, locally obtained from the "Los Vegas Ranch,"

were being served along with daily bread prepared in five domed rock ovens as well as a standard fare of canned fruits and vegetables. Men may have had the choice of eating in a company/contractor mess and/or preparing meals on their own or in small cohesive groups. Material remains reflect commodities of local, national, and possibly international acquisition. Spatially, the camp appears to be non-regimented and socially cohesive except for a separate grouping of features at the east end of the camp where the mess and cook area are thought to have occurred. Other functional, spatial separations include two entrepreneurial establishments which served alcoholic refreshments to thirsty workers. One whiskey ranch is located opposite the work camp on the south side of the tracks and another is isolated some distance to the east.

Through data recovery, the mitigation process has compromised the material integrity, workmanship, and feeling of the site, eliminating it from further NRHP Criteria considerations. It is unlikely that additional data collecting or recording at the site will provide significant information on research questions posed in this study. Data presented within is intended to be used as a baseline for comparison with other identified or yet to be recorded SP, LA&SL railroad-related construction camps in southern Nevada and California.

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INTRODUCTION

At various dates during the month of June, 1997, the Harry Reid Center for Environmental Studies (HRC), Marjorie Barrick Museum of Natural History, University of Nevada, Las Vegas (UNLV), conducted archaeological field investigations at site 26CK4842 for Nevada Environmental Consultants, Inc. (NECI), on behalf of Olympic, a real estate development company. Olympic has entered into a land exchange agreement with the Bureau of Land Management (BLM), Las Vegas District Office. The exchange focuses on approximately 3,897 acres of public domain land comprised of noncontiguous tracts primarily in the southwest portion of the Las Vegas Valley for selected lands of equal value established at various localities within Clark County, Nevada.

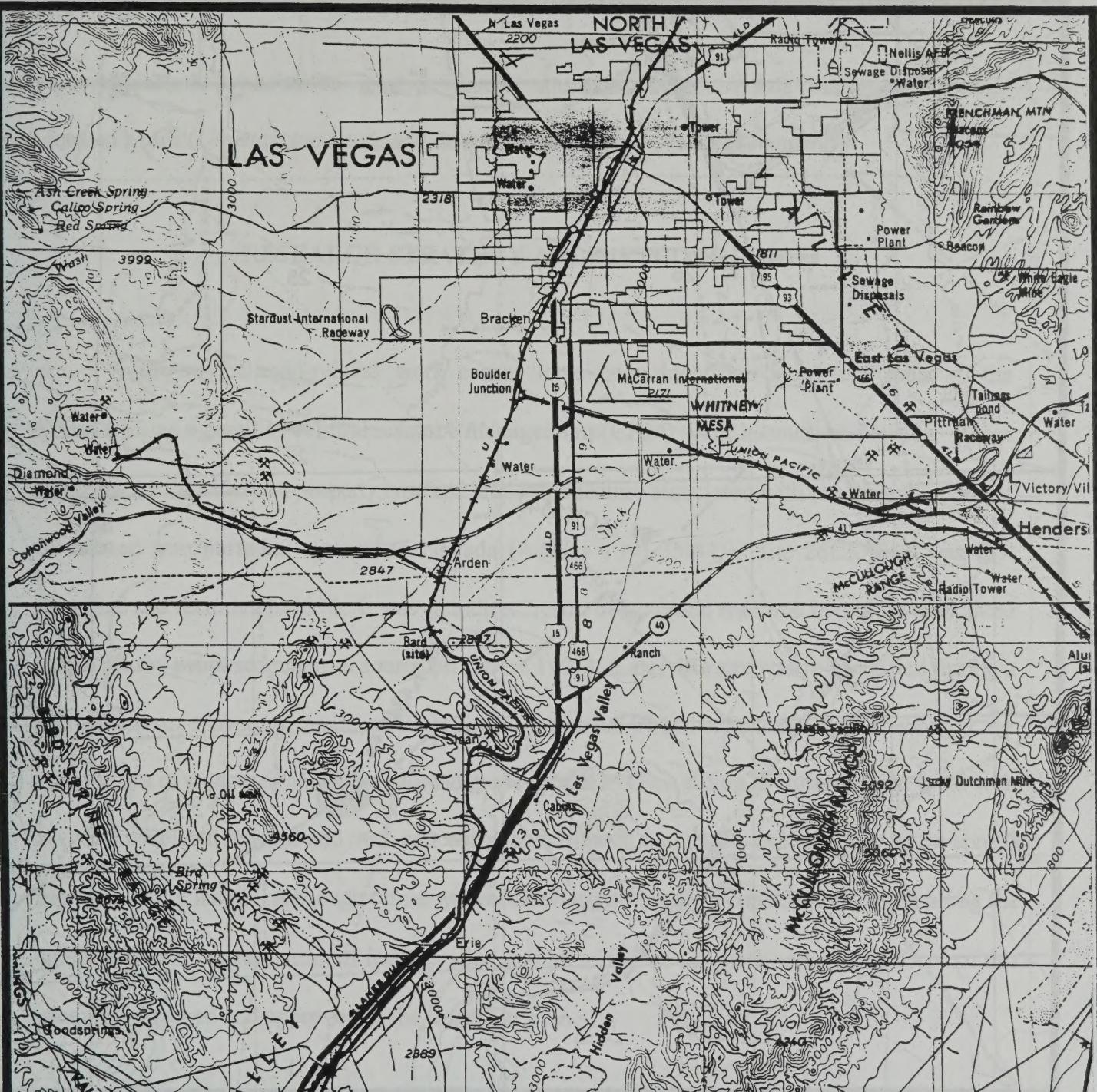
Designated as 26CK4842 (BLM CRNV-05-5884), this historic railroad work camp and siding, thought to have been briefly occupied during the winter months of 1904/1905, is associated with the construction of the San Pedro, Los Angeles & Salt Lake Railroad (SP,LA&SL), particularly the Arden to Erie shoo-fly, and consists of numerous features and trash scatters. Located on public land included in the Olympic and BLM exchange, archaeological site 26CK4842 was previously determined eligible for inclusion in the National Register of Historic Places (NRHP) under evaluation Criterion (d) in consultation with the Nevada State Historic Preservation Office (SHPO). Significant for its potential to yield, in whole or part, data contributing to our understanding of regional and local history, treatment of the site was formulated to lessen the adverse effects of the undertaking per 36CFR800.9(c)(1). Mitigation of the site was requested by BLM. Thus, the following report summarizes the results of archaeological and archival investigations for the moderation of impacts to this historic property.

PROJECT LOCATION AND ENVIRONMENTAL SETTING

Generally situated in the southwestern portion of the Las Vegas Valley, site 26CK4842 is approximately 13 miles southwest of downtown Las Vegas and 2 miles southeast of Arden, Nevada, a major railroad siding in current use by the Union Pacific Railroad (Map 1). More specifically, the linear site is located in the N1/2, SE1/4, SW1/4, Section 36, T. 23S., R. 60E. (Map 2). Access to the site is gained by various dirt roads that dissect the sparsely populated area.

Topographically, the former construction camp and abandoned siding is positioned in the bottom of a short, narrow valley trending to the northwest, at an approximate elevation of 2,480 feet. Within easy walking distance on either side of the site are steep bedrock outcrops of Monte Cristo Limestone of the Mississippian Period, the most northeastern extension of the Bird Spring Range (Longwell *et al.* 1965). Quaternary alluvial sand and gravels derived from the nearby limestone hills dominate surface and subsurface soil composition. Stable patches of desert pavement are present throughout the area where not disturbed by human presence. Surface water runoff drains to the northeast, dissecting the site with numerous dry drainage channels, generally contributing to the Duck Creek drainage system.

Sparse vegetation characterizes the biotic community of this desert environment and is typical of the Desert Scrub Community for the lower elevations of southern Nevada. Creosote bush (*Larrea tridentata*) is the dominate plant species in association with white bur-sage (*Ambrosia dumosa*). Desert spiny herb (*Choriznthe rigida*), Mormon-tea (*Ephedra nevadensis*), brittle-bush (*Encelia farinosa*), and globe mallow (*Sphaeralcea ambigua*) are also present in the area. Sporadic occurrences of cat-claw (*Acacia greggii*) are found in the ephemeral drainages. Faunal species



MILES 5 0 5

KILOMETERS 5 0 5

SCALE 1:250000

LEGEND

PROJECT AREA



CULTURAL RESOURCES

HARRY REID CENTER FOR ENVIRONMENTAL STUDIES
UNIVERSITY OF NEVADA-LAS VEGAS

PROJECT: BLM/Olympic Land Exchange

COUNTY: Clark

Map #1

Quad:

Las Vegas, NV; AZ; CA.

Kingman, AZ; NV; CA.

Revised 1969

Map 1. Project location.



MILES 1 $\frac{1}{2}$ 0

KILOMETERS 1 .5 0

SCALE 1:24000

LEGEND

Shoo-fly alignment - - - - -

Workcamp ■

Map 2. Site location, 26CK4842.

CULTURAL RESOURCES
HARRY REID CENTER FOR ENVIRONMENTAL STUDIES
UNIVERSITY OF NEVADA-LAS VEGAS

PROJECT: BLM/Olympic Land Exchange

COUNTY: Clark

Map # 2

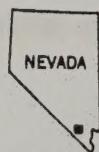
Quad:

Las Vegas SW, NV.

Photorevised 1984

Sloan, NV.

Provisional 1989



QUADRANGLE LOCATION

observed include white-tailed antelope ground squirrels (*Ammospermophilus leucurus*), side-blotched lizard (*Uta stansburiana*), and desert spiny lizard (*Sceloporus magister*).

RESEARCH STRATEGY AND METHODOLOGY

Numerous railroad-related work camps have been identified along the route of the SP,LA&SL as a result of cultural resource management (CRM) work in southern Nevada. These resources are considered a property type and landscape feature associated with the thematic context of railroad transportation systems in Nevada (Adkins 1991:35-41). Site 26CK4842 was first identified and recorded in 1992. It was an indirect result of a cultural resource inventory associated with a nearby proposed material source pit (Drew 1992). Later, the site was re-identified during a cultural resource inventory associated with the Olympic and BLM land exchange. As recorded, the site consists of an abandoned linear railroad grade (26CK3542), a siding, a clustered tent town with a variety of related features and trash concentrations, isolated tent pads, and sporadic refuse spread along the grade length. Although refuse was recorded extending for a considerable length along the grade, the main concentration of features and trash identified as the work camp is the focus of this study as proposed and approved in the treatment plan.

STRATEGY

Originally designed to include the mitigation of three railroad-related construction camps and a prehistoric site in the immediate vicinity, an inclusive treatment plan was submitted, reviewed and approved by BLM and the SHPO (Blair and White 1996). As a result of previous archaeological

research in southern Nevada and the description of various major SP,LA&SL railroad-related property types, a pattern for archaeological data recovery has been developed. It was determined by the agencies that functional comparisons of site types within a transportation system and limited temporal framework should be initiated. Based on a regional transportation model (Myhrer 1993), previous CRM research and inventory, and the Nevada Historic Preservation Plans (Lyneis 1982, White *et al.* 1991), research issues were refined and questions posed. Primary research issues and related questions pertaining to data recovery at 26CK4842 stated in the treatment plan focus on site structure and spatial relationships, ethnicity, subsistence, and technology. Research questions are reiterated in the interpretive section below.

METHODOLOGY

To achieve a goal of understanding and create a baseline study for similar site types existing along the SP,LA&SL railroad rights-of-way, it was necessary to design a methodology; one that, while addressing research issues, would provide a comparative description of artifact and feature assemblages, and identify and describe major activities at the site. It was first necessary to relocate and identify all previously recorded and any missed features. This was accomplished by a block survey using linear transects with 15 foot intervals between personnel. Identified features and trash concentrations were consecutively numbered and pin flagged. Later, additional features were recognized and numbered out of sequential order as the archaeological crew worked the site and became familiar with the site's subtleties in the changing light of the work day. The adopted unit of measurement for recording and later analysis was feet and inches, consistent with historical archeology and measurements of the time.

A grid system of 100 feet (ft.) by 100 ft. units aligned to magnetic north was fixed over the site from a central site datum for the purpose of identifying specialized activity areas (i.e. eating, sleeping, socializing, and working) and to characterize the artifact and feature assemblage. The grid system resulted in 27 recording units or roughly 270,000 square feet of surface area incorporating the entire camp along with fringe areas. Individual units were then used to record surface artifacts located within unit boundaries. Datums and assigned provenances were delineated at the northeast unit corners. Teams of two, a recorder and identifier, employed recording forms adapted from Guidelines for Historical Archaeology (SHPO 1994). Features and identified trash concentrations were segregated and recorded separately from the larger recording units. An arbitrary boundary of three feet around each feature was included as part of the feature's recordation. These tasks were completed to account for the horizontal distribution and associations of both surface artifacts and features, and has been successfully applied to similar nearby sites (Myhrer and Hatzenbuehler 1994).

Due to the nature of historic sites in the American West (i.e. large quantities and redundancy of tin cans) and the economic consideration of curating such material, field recording of surface artifacts was emphasized in data recovery rather than the standard practice of collection. Some surface artifacts were, however, collected. These items were limited to temporal or diagnostic artifacts as well as unique, one-of-a kind material objects. All artifacts recovered from subsurface excavations were retained as part of the permanent collection. Rather than counting individual pieces of bottle glass or ceramic fragments during surface recording, an effort was made to note only bottle and ceramic bases as representing complete, single items.

Subsurface investigations at 26CK4842 were limited to selected features based on surface evaluations and field decisions including intactness of the feature, visibility and variety of surface

artifacts, and potential for subsurface deposition. Excavation unit size was usually 5 ft. by 5 ft. However, some units were tailored to selected features. As designed in the treatment plan, excavations were executed in arbitrary levels of six inch increments, but it was quickly determined that surface scraping of selected tent pads and hearth features to a depth to three inches below surface was sufficient to account for the shallow deposition of artifacts. The internal deposits of all five domed rock ovens were excavated to their stone floors or sterile soil in order to describe their method of construction, material and artifactual contents. Oven fill, consisting of collapsed construction material, limestone rocks and soil covering, and packrat midden including cultural material, was excavated as a whole, no stratigraphy being present. All material was screened through 1/4-inch mesh shakers to recover artifacts.

Mapping of the site was achieved with a transit, stadia rod in feet and inch designations, and a 300-foot cloth tape. Extreme heat and wind vibration of the transit and stadia rod made long distant shots difficult to read, and measurements were rechecked using the cloth tape as a result. Readings were made from the central site datum marked by a steel rod on top of a rock and gravel spoil pile.

All retrieved artifacts from the study site were processed at HRC's lab facility at UNLV. Using standard archeological lab methods, the artifacts were cleaned, sorted, numbered, bagged, classified according to functional use, and electronically catalogued into a Reflex™ computer file. The functional classification system into which the artifacts were categorized is based on one of several versions offered by South (1977) and Sprague (1980) and is intended to demonstrate some degree of reality relevant to the culture that used the material. Field recorded (non-collected) artifact inventories for the 100 by 100 ft. recording and feature units were likewise subjected to the same

hierarchical classification scheme for analytical purposes. Inventory results of the field recording are presented in Appendix I (recording units) and II (features). Selected photographs of the site and features taken during the work are displayed in Appendix III.

Archival research, an integral and complimentary component of historical archaeology, was directed at primary sources regarding the construction of the SP,LA&SL in southern Nevada between 1903 and 1905. Particular attention was paid to the period from May, 1904 to May, 1905. Microfilm on file at the Dickinson Library, UNLV, for the few local southern Nevada newspapers from the appropriate time were reviewed. Indexes and selected record boxes for the SP,LA&SL collection stored at Special Collections, Dickinson Library, UNLV, were examined. The 43-box collection contains correspondence relating to Las Vegas townsite lots (1905-1913), numerous accounting reports, freight lists, invoices and other administrative materials (1903-1923), Arden Station records (1907-1917) and miscellaneous Union Pacific records (1923+). Union Pacific Railroad's Museum Services in Omaha, Nebraska, was contracted without results to investigate their archives for appropriate material. Additionally, *Harper's Weekly* and *Leslie's Weekly* for 1904 and reprints of the *Sears* catalogue were reviewed for product advertisements and product types. Well written general histories of the SP,LA&SL are available as secondary sources (Kirk 1934; Signor 1988; Myrick 1992). Results of the archival research are incorporated into various sections of this report as appropriate.

As with any southern Nevada project conducted during the summer months, the work was accomplished under the hardship of extreme heat and wind. Participants in the field work at various times included James C. Lowe, David Smee, Sherry Marks, Susan Murphy, and Kristi Burroughs, HRC archaeologists under the supervision of William White, Senior Historical Archaeologist.

Joining the team was NECI archaeologist and monitor James J. Gregory. BLM District Archaeologist Stan Rolf and NECI Environmental Coordinator Bill Garrett collaborated with the author in several field discussions and decisions. Analysis of recovered bone material was conducted by Stephanie Fox and illustrations are by David Smee.

HISTORIC CONTEXT

The following context focuses on the initial years of construction for the SP,LA&SL, 1903 to 1905, rather than operation, maintenance, and the eventual take over of the route in 1923 by the Union Pacific Railroad.

"To most people, the journey to Los Angeles from Salt Lake over the new Clark line will be like a voyage of discovery, there is so much about it of the unexpected and interesting. From an engineering and operating stand point the road is a marvel; but for the ordinary traveler there is an unending charm in the associations attached to the old southwestern trail to California - the romances, the tragedies, the epics of the heroic men who half a century ago traversed almost identically the same route in face of danger and disasters" (*The Butte Miner* 5/7/1905).

Thus read one of many newspaper accounts announcing the opening of the SP,LA&SL, commonly referred to as the Salt Lake Route, the last major railroad route to be built in the American West. Recognizing a need and the potential advantages of constructing a more direct, all-weather route between Salt Lake City and Los Angeles, business and U.S. Congressman William A. Clark from Montana proposed and promoted the connection in the 1890s (Kirk 1934, Hulse 1987). In addition to connecting the two major population and trade centers, the envisioned route would be instrumental in the establishment of Las Vegas and bringing an end to the relative isolation of a vast, empty desert landscape, including portions of the Great Basin and Mojave Desert.

Initially, the proposed project was embroiled in conflict, primarily over rights-of-ways held jointly by the Union Pacific and the Oregon Short Line in Utah and southeastern Nevada. After the formation of the SP,LA&SL in 1901, construction on the line began in the San Pedro and Los Angeles areas. Construction on the Utah end of the line would not begin, however, until differences between E. Harriman of the Union Pacific and Clark had been settled. A compromise was reached between both head-strong leaders in the fall of 1902, each sharing half interests in the venture (Kirk 1935; Hulse 1987; Signor 1988; Myrick 1992).

Improvements were made to the existing railroad alignment between Salt Lake City and Caliente, Nevada, in anticipation of constructing the line across the desert to Los Angeles. Faced with a hostile environment and demanding task, surveying teams were also busy traversing the desert wilderness establishing the proper route suitable for a new railroad. Survey parties under the supervision of F.M. Robinson returned to Los Angles during July, 1903, following nine months in the field surveying the route between Caliente and Cajon Pass, California (*Lincoln County Record* [LCR] 7/31/1903:4).

In July, 1903, the Empire Construction Company, a subsidiary of the SP,LA&SL and overall construction manager, issued a request for bids for the construction of the first 100 miles of the new railroad, "a stretch of 85 miles from Calientes [sic] to Moapa river and 15 miles from Daggett [California] to the edge of the desert" (LCR 7/17/1903:1). A week later it was reported that some fifteen contractors had been "down over the line from Calientes to Manvel [California], looking over the proposed route ... with a view to putting in bids for the work for the same" (LCR 7/24/1903:4). After reviewing the bids submitted by the various contractors, Utah Construction Company (UCC) was awarded the contract to prepare the first 85 miles of railroad grade south and west from Caliente

(LCR 8/14/1903:4). Norton and Long, a Los Angeles based firm, would handle construction of 48 miles of grade from the California end (*The Searchlight* 8/21/1903:1) Construction, under joint control of Harriman and Clark, started at Caliente on August 31, 1903 (Signor 1988:38). Men, rails, and supplies were rushed to Caliente as it quickly became a redistribution center for all railroad work from that location to the Nevada/California stateline.

Enormous amounts of supplies were needed for the project. "Seventy-five carloads of all kinds of material and supplies have been received the past week by Utah Construction Company" (LCR 9/18/1903:1). In a four day period in July, 1904, Caliente received 44 flat cars hauling 3,476 steel rails, 79 rails per car, shipped from South Chicago (UNLV 1904a). The waybill was signed by R.R. Brown, Division Engineer, Maintenance of Way.

A workforce of considerable size was also needed to accomplish the task. Remarking on the workforce, it was stated that "all desiring employment can obtain it from the contractors. There are work for a large number of men and teams" (LCR 7/12/1904:4). UCC was utilizing up to 1,200 horse/mule teams and 1,200 men on their preliminary grading contract (LCR 11/5/1903:1). Men responded to such advertisements as printed in *The Searchlight* (5/26/1903:6), "WANTED FOR RAILROAD WORK ... 500 men at the following prices: Teamsters, \$40 per month and board; Rock men, \$3.50 per day, of nine hours; white laborers, \$2.00 per day, of ten hours; Mexicans and Indians, \$1.75 per day, of ten hours. Board of men, 75 c. per day. Comfortable quarters furnished."

The construction force was ethnically diversified. Caliente's "genial postmaster is kept busy these days. He seriously contemplates taking a course of study in Greek, Austrian, Italian, and Finland so as to be able to decipher the heterogeneous [sic] mass of letters that arrive at his office" (LCR 9/18/1903:1). "Several carloads of Spaniards were shipped from the north during the week

to work for the U. C. Co.” (*LCR* 5/27/1904:2). In a humorous account, an Irishman put in the better part of four hours looking for the “man that stole the stream of water” that had disappeared in the night behind his tent (*LCR* 3/4/1904:1). In California, Mexicans were hired to construct the railroad from Daggett toward Nevada (*LCR* 2/3/1905:1).

Work along the line advanced quickly. Subcontractors to UCC such as the Cory Brothers employed 200 men and were contracted to complete 12 miles of grade at the “Pockets” in the Meadow Valley Wash (*LCR* 9/18/1903:1). The local newspaper optimistically reported that daily trains were bringing in men and that “by the time the 85 miles is covered there will be no less than 1500 men at work” (*LCR* 9/18/1903:1). As the front advanced, so did the private entrepreneurs, “several saloons moved down the line this week” (*LCR* 12/3/1903:1). Tracklaying gangs had completed 40 miles of rails below Caliente by February, 1904, and 13 bridge carpenters were laid off as all the bridge work had been completed to Moapa (*LCR* 2/12/1904:2). Another subcontractor, Taylor Brothers, had finished their grading contract near Moapa and had pulled out for Ogden, Utah, where they planned to rest until spring (*LCR* 3/11/1904:2). Tracklaying followed the grading crews often at a rate of 7,000 feet a day (*LCR* 12/4/1903:4).

Completing the first 85 miles of grade construction ahead of the contracted completion date of July 1, 1904 (*LCR* 8/14/1903:4), the UCC was awarded the next 85 miles beyond Moapa (*LCR* 3/4/1904:1). By March, 1904, work on the line was progressing from four work fronts: Caliente south; Daggett north; and north and south from a point near the California and Nevada stateline, the present location of the Ivanpah siding (*LCR* 3/4/1904:1 and 5/6/1904:2, Myrick 1992). Construction trains carrying passengers and freight were running nightly between Caliente and Moapa with most of the grading completed to the Las Vegas Ranch in May (*LCR* 5/6/1904:2). Steel rails reached the

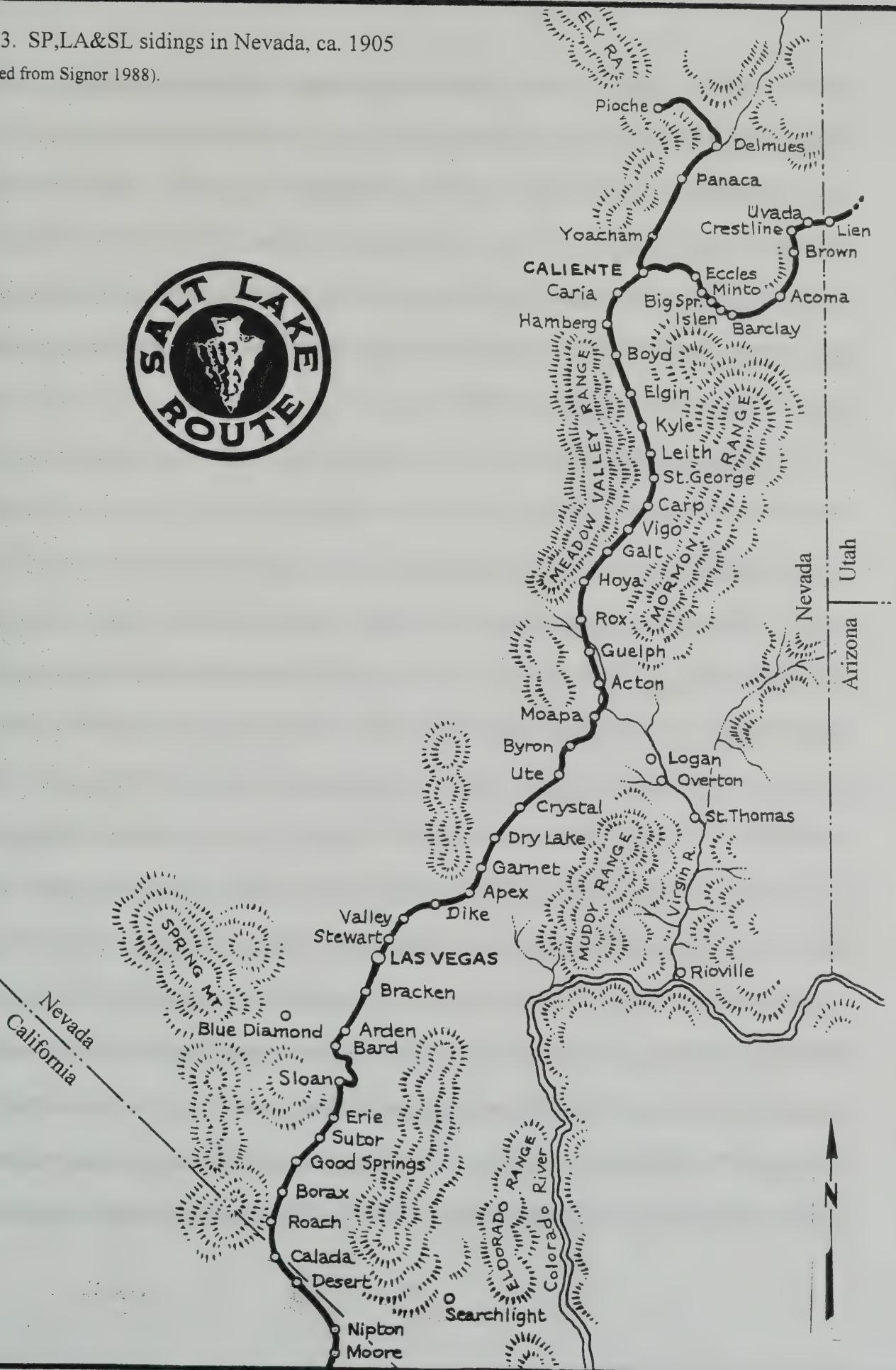
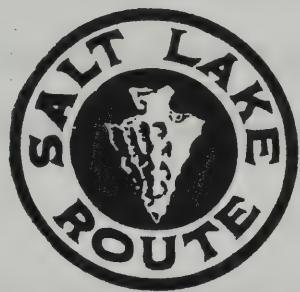
vicinity of Las Vegas Ranch in mid-October as grading continued pushing south toward the stateline (Signor 1988:39; Myrick 1992:644).

During construction, work camps and sidings were established at regular intervals and/or at strategic locations. Most camps were short-lived tent cities but some became major stops along the route. In an early history of the SP,LA&SL, Kirk (1935:49) states that "a 3000-foot siding was provided every five miles." Between Caliente and Sutor siding, the approximate location where the opposing work forces met to join the rails, 31 sidings were established including Sutor (Map 3). Each of the 31 sidings are roughly 5 miles apart, more or less. Measuring track mileage from Caliente beginning at mile 0 during construction, several camps have been defined for the latter months of 1904 (UNLV 1904b). For instance, Camp 18 under the signature of Frank Owen was located at mile 40, the Carp siding. Jeff Hamilton and W. Weiser signed for supplies destined for camps at mile 45 (Vigo siding) and 60 (Rox siding), respectively. Camp 6 was located at mile 95, the Dry Lake siding, with L.L. Burt and W. Lechner signing for supplies for the telegraph gang. At the Apex siding, F.C. Orth signed for camp supplies at mile 105. Beyond the Las Vegas siding at mile 123.2, Division Engineer, A.L. Jones, Wm. Lamb and the bridge gang were located at Camp 2, either the Arden or Bard siding at mile 135. Finally, George Erwin, Assistant Engineer, signed for fresh beef bound for a camp at mile 145, being either the Sloan or Erie siding.

In order to keep the work force fed and equipped with necessary supplies and sundries, SP,LA&SL shipped in required commissary supplies from Salt Lake City and points east. Caliente was used as the distribution center for materials being sent down the line to the work front. Aside from the massive quantities of construction related material, a partial list of incoming commissary supplies included syrup, cheese, bacon, kraut, oil, extracts (flavoring), crockery, radishes, onions,

Map 3. SP, LA&SL sidings in Nevada, ca. 1905

(adapted from Signor 1988).



groceries, vegetables, eggs, lard, peas, hams, dry goods, sugar, vinegar, spuds (potatoes), notions, and shoes. SP,LA&SL was carrying the supplies in its own railroad cars for free, but based on a rate of $\frac{1}{2}$ cent per ton per mile for internal accounting purposes (UNLV 1904c). Supply tents were established at camps along the route in support of the crews (Myrick 1992:631). Commenting upon the characters he had encountered along the route, one newspaper reporter reflected about the "decayed gentlemen keeping store tents for contractors, [and] clean, young boys doing the same" (*Los Angeles Daily Times [LADT]* 1/31/1905:12).

In addition to distant suppliers of commissary goods, items of a local nature were also available for purchase by the railroad. Like others seizing the opportunity to make money from the railroad, Charles Rosetti of Camp Valley, located in the upper end of the Meadow Valley Wash, traveled to Caliente in an attempt to secure a contract with the SP,LA&SL to furnish beef to some of the grading camps (LCR 8/14/1903:4:1). One successful entrepreneur, Helen Stewart of the "Los Vegas Ranch," was providing beef and other supplies to the work force. From November 2 to December 31, 1904, the "Los Vegas Ranch" provided approximately 22,380 pounds of beef, representing 55 to 65 cows, at 6 cents a pound and 2,551 pounds of sweet potatoes at 3 cents a pound (UNLV 1904b). Supplies were purchased by various company representatives almost daily during that time. For example, on November 13 A.L. Jones, Division Engineer, purchased 50 lb. of sugar, 5 dozen eggs, 15 lb. of onions, 20 lb. of butter, $\frac{1}{2}$ lb. of pepper, 10 lb. of lard, and 75 lb. of beef for the bridge gang at Camp 2; the bill was forwarded to the Commissary Department for payment. In return, Stewart was paid \$1,473.77 by the Commissary Department for her two month effort. She would have been paid \$8.28 more, however, G.V. Boyd noted some shortages in weight totaling 138 pounds in various shipments of beef to Caliente (UNLV 1904b). Locally purchased supplies were

taken to work camps up and down the line from the ranch.

Aside from the quantities of beef being purchased by the railroad, fresh fruits and vegetables may also have been available in season from Stewart's "Los Vegas Ranch." Nestled in the shade of enormous cottonwood trees, the ranch was an oasis, "the gem of the whole Vegas valley," in the bleak desert wilderness. Irrigated by water from the Big Springs, "the fertile land sustains an orchard of figs, apricots, peaches, prunes, and apples, as well as a beautiful vineyard and a vegetable garden, whose products are worth pretty nearly their weight in gold" (*The Butte Miner* 5/7/1905). Certainly, sweet potatoes and onions were being purchased by the railroad from this desert oasis as noted above.

Even in the best of operations, some commodities were in short supply, but in high demand. Frank Owen, Camp 18 at mile 40 in the Meadow Valley Wash, obtained a half side of beef, 166 pounds, from the "Los Vegas Ranch" on December 12, 1904. Before passing the bill on to the Commissary Department for payment, Owen scribbled, "We ought to have some small scales or large as soon please the men are clamoring for tobacco - smoking and chewing" (emphasis not added)(UNLV 1904b).

Although it is not known if all of the construction camps had their own individual cooks, most likely they did, at least six cooks of various ethnic backgrounds were employed by SP,LA&SL to cook for the construction engineers (UNLV 1904d). Mora Satake prepared meals for the crew supervised by A.L. Jones, Division Engineer, in April, 1904. Other listed cooks included, Ong Heing, Charles Chee Ung, L. Harrison, Charley Chee, and Tom Horn. Cooks were paid at a rate of \$50.00 a month by the Commissary Department. In discussing the order of progression of construction, one newspaper reporter commented that the Commissary Department was responsible

for "dropping kitchens and dinning rooms in the wilderness" (*LADT* 1/31/1905:1).

Like an army of ants with an arduous task before them, employees were grouped into cohesive units assigned to accomplish specific work tasks in a time-tested, logical order. A payroll distribution list for April, 1904, provides a rough ideal how the system was set up (UNLV 1904e). The roster lists 5 section gangs, 4 bridge gangs, 2 pile driver gangs, 5 engineer parties, and 1 each track, culvert, rip rap, bridge surfacing, telegraph, tracklaying, track surfacing, and steam shovel gangs. From above it is known that a bridge gang was located at Camp 2 and the telegraph crew was at Camp 6 in November and December, 1904. Grading crews may have been structurally organized under the heading of Section Gangs. Poetically, "each gang a class, a stratum of society, a little world unto itself" (*LADT* 1/31/1905:1).

Because of their special status, engineers on the line were extended special privileges, particularly Division Engineer, A.L. Jones. "Mr. Jones is a silent, grave young Englishman, speaking, when he speaks at all, with quiet voice. Nothing flurries him," admired one writer (*LADT* 1/31/1905:12). During the last months of 1904, Jones was situated at Camp 2 along with the bridge gang. His office and living quarters were located in railroad car No. 151, which could be moved and parked on a siding track as the work progressed (UNLV 1904b). Fresh beef and other supplies were delivered directly to this car where cook Mora Satake prepared the meals.

South of the "Los Vegas Ranch," portions of which had been purchased by Clark in 1902 for a maintenance station, storage facility, and its water (*LCR* 10/24/1902:4), work proceeded toward the Nevada-California stateline. Where difficult sections of the grade impeded progress, temporary by-passes or shoo-flies were built around major obstructions (*LCR* 8/26/1904:4). One of two such shoo-flies was constructed south of Las Vegas and is referred to as the Arden to Erie Shoo-fly. This

12-mile section of temporary grade allowed work to continue on a less steep, permanent grade and 300-foot tunnel on the side of a limestone mountain without interrupting the completion of the railroad (Signor 1988:39). Tracklaying along the shoo-fly began November 18, 1904, just south of Arden and was completed just north of the Erie siding on January 11, 1905 (Myrick 1992:645). During this time, it is probable that A.L. Jones was personally directing the construction of the permanent grade overlooking the shoo-fly below.

South bound grading gangs having topped a low saddle between the Las Vegas Valley and the Jean Lake drainage joined forces with north bound grading gangs in the vicinity of the Borax, Nevada, siding by the end of 1904 (Signor 1988:38). The Dunley Brothers, having worked the grade south of Las Vegas and completing their contract, began packing and shipping out their men, teams, and equipment (*LCR* 11/11/1904:4). Beginning the new year, track gangs picked up the work pace to close the remaining gap between the steel rails. On January 31, “the last spike was unceremoniously whacked into the last tie of the Salt Lake road at 3:15 o’clock this afternoon by a bullet-headed Greek born in the shadows of the Acropolis. Alas, twas not golden, but molded of Pittsburgh pig iron” (*LADT* 1/31/1905:1; *LCR* 2/3/1905:1). And with that, “every train is taking out stock and horses, rusty Fresno scrapers are being packed on flat cars; soiled tent homes are coming down in rumbled heaps; toiled workers are drawing their pay checks and going away” (*LADT* 1/31/1905:12).

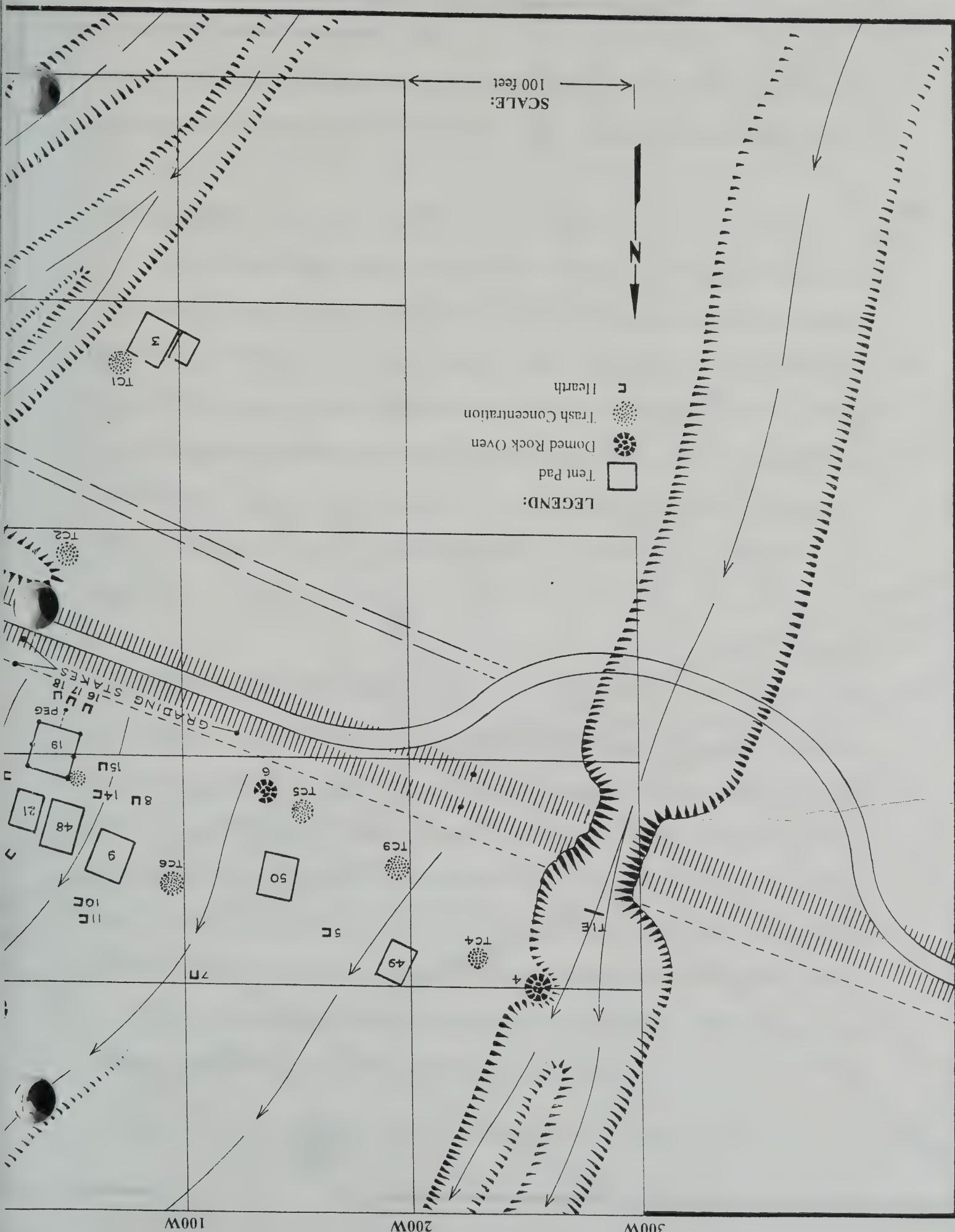
Despite the completion of the line to through traffic (the first through train ran on February 9, 1905) much work remained to be completed. Ballast was to be poured and spread, wooden piles needed to be driven to replace temporary bridges, rip rap installed at strategic locations to prevent washouts, and the permanent line between the Arden and Erie sidings completed. Blasting of a 304-

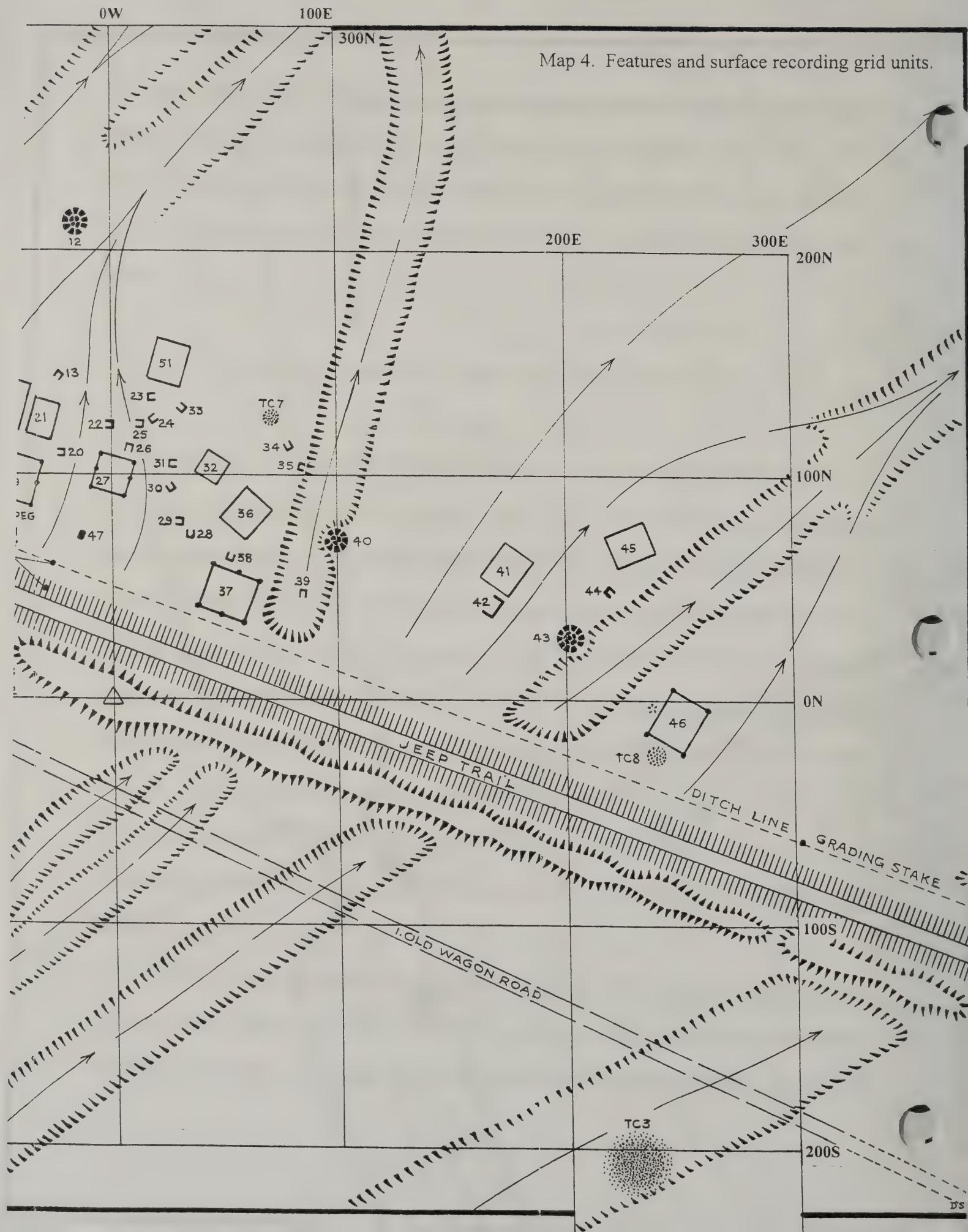
foot tunnel through solid limestone northeast of the present Sloan siding slowed the progress of this permanent line. Once the tunneling was accomplished, tracklaying began on April 11 from Arden and was completed to Erie on May 26, 1905 (Myrick 1992:647). On this last date, the Arden to Erie shoo-fly was abandoned and all that remained was to remove the rails and ties for use at other locations.

ARCHAEOLOGY DATA: FEATURES AND ARTIFACTS

Archeological investigations of 26CK4842, a railroad siding and construction camp located on the Arden to Erie shoo-fly, resulted in the recording of 52 features and 9 trash concentrations. Identified features included 17 tent pads, a large boulder probably used as a table, a wagon road, the main and siding grades, 28 rock lined hearths, and 5 domed rock ovens. With two exceptions, the tent pads and domed rock ovens are clustered on the northeast side of the abandoned grade and siding in an area roughly measuring 575 ft. by 160 ft. (Map 4). One exception is an isolated cluster of two adjoining tent pads with a trash concentration located approximately 110 ft. south of the track and work camp. An additional isolated tent pad and associated trash concentration and scatter was noted and recorded approximately 750+ ft. east of the main camp. Finally, 2,921 artifacts were recorded from surface observations resulting from the inventory of 27 recording units, 100 by 100 ft. in size.

Aside from the surface inventory, excavation of selected features was accomplished as part of data recovery. Forty-three 5 ft. by 5 ft. excavation units or portions thereof were excavated in association with 12 features including 6 tent pads, a hearth, and 5 domed rock ovens. Excavations





resulted in the recovery of 748 artifacts, some of which had been previously accounted for in the surface recording. Surface inventory and excavation results are discussed individually below.

WAGON ROAD

Ruts of a former wagon road are visible on the desert pavement. Designated Feature 1, the road parallels the railroad alignment in a northwest/southeast direction on the south side of the grade (refer to Map 4). Measurements include outside-to-outside, 5 ft. 10 inches; inside-to-inside, 3 ft. 7 inches; and each wheel rut is 8 to 9 inches wide with a slightly concave profile to a depth of 2 inches below the surrounding surface. Approximately 600 ft. in length, the road enters the site on the west ascending from a deep wash and dissolves east of the site in another wash. Aside from the artifact scatter associated with the site in general, no artifacts can be directly associated with the road segment.

RAILROAD GRADE AND SIDING

Feature 2 consists of two parallel railroad grades representing the main shoo-fly and siding alignments. Trending northwest/southeast, the alignments naturally extend beyond the boundaries of the camp: 1) originally the main shoo-fly line began south of the Arden siding and continued southeast and south to Erie, an approximate distance of 12 miles; and 2) the siding grade, established north of the main track, is approximately 3,200 ft. in length beginning roughly 1,000 ft. northwest of the camp and rejoining the main track shy of a cut in a limestone saddle southeast of the camp. A modern jeep trail runs down the center of the two track alignments. The shoo-fly has been designated 26CK3542 from a previous CRM survey (Drew 1992).

At one time, the tracks passed over a major drainage located at the northwest end of the camp. A temporary wooden bridge or wooden culvert may have been built at this location to accommodate surface water runoff. Physical evidence of this structure, however, no longer exists, having been removed on abandonment of the route or destroyed as a result of erosional forces. A railroad tie located in the wash is of a modern pressure treated variety, probably washed down from the current railroad alignment, and is not temporally associated with the subject shoo-fly.

Upon abandonment of the alignment in May, 1905, the steel rails and wooden ties were removed leaving only the ballast in place and depressions where the ties had been. Common, locally derived gravel, consisting of rounded rocks less than three inches in size, was used as ballast material to secure the ties. Based on the depressions in the ballast, the wooden crossties, 6 to 8 inches wide by 8 ft. in length, were set directly upon the soil of the graded bed rather than a rock subbase. Crossties were spaced roughly 24 inches apart, center to center measurements, a common practice on standard-gauge lines (Stein 1993).

Amazingly, worn and grey from exposure to the harsh desert elements, seven original wooden grade stakes were identified at various locations within both grade alignments (refer to Map 4). Three stakes, protruding slightly above the top of the ballast material, are thought to represent centerline stakes; two stakes found in the siding alignment are exactly 200 ft. apart while two opposing stakes, one on the main line and the other on the siding, are 16 ft. apart. A single stake, exactly 100 ft. between the two siding centerline stakes, and another on the south side of the main shoo-fly line probably represent the outside edge for the placement of railroad ties, measuring roughly 4 feet from the respective grade centerlines. Finally, two stakes are located in the bottom of a drainage ditch seven ft. north of the centerline for the siding, and probably represent the

centerline for that associated railroad construction detail.

Earlier survey reports suggest the presence of an earthen platform, used perhaps for the loading and unloading of supplies (Drew 1992, Seymour *et al.* 1996). The proposed platform was not reidentified during this study. However, it was noted that large piles of spoil dirt have been deposited on the south or uphill side of the alignment for the purpose of redirecting surface water drainage way from the grade. It is possible that one of these piles may have been mistaken for an earthen platform. It is also doubtful that the railroad would have constructed a loading platform on the main track grade rather than on the siding grade where rail cars could be unloaded without interfering with the traffic flow.

TENT PADS

The work camp consists of fifteen tent pads with an additional two outlying, isolated tent pads, designated Features 3A and 3B, 9, 19, 21, 27, 32, 36, 37, 41, 45, 46, and 48 to 52 (refer to Map 4). With exception, all tent pads were prepared on fairly level ground by simply scraping the desert pavement to all four sides, thereby leaving a rock-free surface, usually, surrounded by a low earth berm, the cleared area corresponding to the size of the tent (a working assumption). The exception includes Features 41, 45, and 46 which would have required the removal of numerous large to medium sized rocks prior to the manipulation of surface soils. On several of the pads, gaps in the earth berm suggest entrances in the center of width measurements and normally face the railroad grade. Since the site is dissected by multiple surface water drainages oriented to the north/northeast, camp occupants erected their tents on relatively higher ground between these channels, thus avoiding drainage problems. In one case, excavation at Feature 9 revealed that water drainage away from the

tent was enhanced by cutting a shallow trench along the outside of the uphill berm.

It is thought that walled canvas tents occupied a majority of the pads with little physical evidence to prove or disprove this assumption. Tent stakes or wire/rope tie-downs were not found at any of the pads except for Feature 19 which has a single long iron bolt driven into the ground, probably used to secure a guy wire or rope. Four pads, Features 19, 27, 37 and 46, differ from the pattern, however. Representing some of the largest pads (see below), these features contain evidence of post holes incorporated into the earth berm. Excavations at Feature 46 revealed one post hole to have a square dimension of 9 inches by 10 inches deep, reinforced with medium-sized rocks at ground surface. Each of the four features have post holes at each corner while Features 19, 27 and 37 have additional posts in the center of the length sides. Clearly, these features had external or internal wood frames that either supported or secured a canvas cover or had wood siding with a canvas top.

Many of the pads exhibited internal charcoal/ash concentrations. Stains consisted of either wood charcoal or low-grade coal fragments with occasional waste "klinkers" or both. The concentrations were located in the center of or offset in one corner of the pad features. In one case, Feature 41, a platform measuring 2 by 2 ft. and comprised of four slab rocks was constructed in the center the pad, surrounded by charcoal/ash material. Charcoal/ash concentrations were also located outside of or around the corner from suspected entrances.

Tent pad sizes varied. Table 1 provides the measured pad sizes (internal berm measurements), probable tent size with exceptions, square footage of the tent, and an estimated number of persons that the corresponding tent might comfortably accommodate. Based on visual similarities with historic photographs taken during the construction of the SP,LA&SL and tents of

various sizes offered in reprints of the 1902 and 1908 *Sears, Roebuck Catalogues*, the wall tent is considered representative to the type of tent used at this camp (Myhrer and Hatzenbuehler 1994).

TABLE 1. TENT PAD, PROBABLE TENT SIZES, AND NUMBER OF PERSONS.

FEATURE	TENT PAD SIZE	TENT SIZE*	TENT SQ. FOOTAGE	PERSONS
Feature 3A	15 x 18 ft.	14 x 18 ft.	252 sq. ft.	Commercial
Feature 3B	7 x 11 ft.	7 x 9 ft.	63 sq. ft.	Commercial
Feature 9	12 x 16 ft.	12 x 16 ft.	192 sq. ft.	5
Feature 19	16 x 19 ft.	16 x 19 ft.	304 sq. ft.	9
Feature 21	13 x 15 ft.	12 x 14 ft.	168 sq. ft.	5
Feature 27	15 x 16 ft.	15 x 16 ft.	240 sq. ft.	7
Feature 32	15 x 15 ft.	14 x 14 ft.	196 sq. ft.	5
Feature 36	17 x 21 ft.	16 x 20 ft.	320 sq. ft.	10
Feature 37	22 x 23 ft.	22 x 23 ft.	506 sq. ft.	17
Feature 41	16 x 18 ft.	16 x 18 ft.	288 sq. ft.	9
Feature 45	19 x 21 ft.	18 x 20 ft.	360 sq. ft.	12
Feature 46	17 x 21 ft.	17 x 21 ft.	357 sq. ft.	11
Feature 48	15 x 19 ft.	14 x 18 ft.	252 sq. ft.	8
Feature 50	12 x 16 ft.	12 x 16 ft.	192 sq. ft.	6
Feature 51	15 x 18 ft.	14 x 18 ft.	252 sq. ft.	8
Feature 52	12 x 20 ft.	12 x 18 ft.	216 sq. ft.	Commercial
TOTALS			4,158 sq. ft.	112

* Tent sizes based on measurements provided for wall tents, Sears 1902 and 08 catalogues, except for Features 19, 27, 37, and 46.

The number of persons was estimated by subtracting a reasonable central isle space (3 ft. wide by tent length) and a warming stove (small stove size of 18" x 20" plus 18" safety zone on each side or slightly larger than a 4 ft. x 4 ft. square) from the tent's square footage. The remaining square footage was divided by a personal space factor that includes a folding camp bed or cot (2' 4" x 6' 6")

and an 18 inch isle space between cots accounting for approximately 25 square feet, assuming that a person's belongings were stored under the bed.

Recognizing that personal space requirements of that time varied from today's standards, the tents at this camp may have held more or fewer men than estimated in this study and given the fact that some tents may have functioned for uses other than domiciles. For example, Feature 32, one of the smaller tent pads, may have been occupied by the construction foreman and because of his position, may have roomed by himself or with an assistant. Features 3A, 3B, and 52 are obvious commercial establishments and are not included in the calculations. Because of the presence of post holes at Features 19, 27, 37, and 46, it is thought these structures may have had specially constructed canvas or wood and canvas structures secured to a wood frame and may have functioned in other capacities such as kitchen and mess hall, company store, and/or equipment/supply storage. As a result, the actual sizes of these features are retained in the calculations. The long axis of all tents are roughly perpendicular to the tracks, with a few minor exceptions (refer to Map 4).

HEARTHS

A high proportion of rock lined fire hearths, 28, were recorded for a camp this size. They are designated as Features 5, 7, 8, 10, 11, 13 - 18, 20, 22 - 26, 28 - 31, 33 - 35, 38, 39, 42, and 44 (refer to Map 4). Most of the hearths, 23, are clustered amongst 9 tent pads in the central portion of the camp, averaging 2.5 hearths per tent pad. Feature 19 has three such hearths at its front door. Generally, each hearth is comprised of numerous small and medium sized rocks arranged in a U-shaped pattern with a straight back and sides, flaring slightly at the mouth, or a tight semi-circle pattern. Many hearths were built free standing upon a level ground surface. Some, however, were

built slightly recessed into the bank of a shallow drainage (i.e. Feature 35). Soil was piled up several inches above the surrounding ground on the outsides of the rock lining in some situations. Sizes of the hearths vary, a typical internal measurement being 18 inches deep by 12 inches across the back with the open side measuring 14 to 16 inches wide. Evidence of charcoal and slag in the hearths suggests that scrap lumber with nails and/or soft coal was used as a heating material. It is not known if local, raw wood was collected and burned, but remains a consideration. Fuel must have been abundant for so many hearths.

Wind seems to have been an important consideration during construction of individual hearths. Prevailing winds in the Las Vegas Valley normally blow from the south, southeast, and southwest. Hearth openings would prudently face away from the direction of the prevailing wind, having at least one side or back acting as a deflector. Twenty-two hearths open on a northerly bearing, including east and west oriented hearths, away from the prevailing winds, while 16 open on a southerly bearing, also including east and west opening hearths, buffered against storms from northern Nevada. Depending upon the direction of the wind at any given time, it would be possible any number of southerly or northerly oriented hearths could be used.

Further evidence of strong southern Nevada winds as a constant element to be reckoned with occurs at Features 39 and 42. Feature 39 is a hearth constructed of immediately available rock in the bottom of a fairly deep truncated wash. Its location would have offered limited protection from southerly and northwesterly winds. Occupants of Feature 41 erected a large semi-circular wind break measuring 6 ft. across the northwest opening and 18 inches high by stacking medium and large stones three courses high. Their fire was built against the northeast wall and was protected from southeasterly winds.

TABLE ROCK

Located in the central portion of the camp, approximately equal distance from either end, is a large, flat-top limestone boulder, roughly measuring 46 inches long, 28 inches wide, and 17 inches high. The top of the rock has been struck repetitively causing minute impact fractures in the grey limestone. Nine smaller rocks had been intentionally wedged at the base of the boulder to prevent it from toppling over on its side. A smaller boulder, measuring 20 by 19 by 10 inches is immediately east of the larger boulder. The smaller of the two may have functioned as a chair.

DOMED ROCK OVENS

Remains of five domed rock structures were identified, recorded, and excavated to reveal their contents and method of construction. Designated as Features 4, 6, 12, 40, and 43, the circular, beehive-like structures are equally spaced upon the landscape within the boundaries of the work camp (refer to Map 4). Previous research has demonstrated that the structures represent partially collapsed remains of baking and roasting ovens. Similar domed rock ovens occur in association with railroad camps in Colorado, Idaho, Montana, Oregon, Utah, Washington, and Nevada (Wegars 1991, Leavitt 1993).

All of the structures are similarly constructed of limestone and other locally available boulders dry-laid in a tiered, circular fashion with each successive course tilted slightly inward to form the dome or vault top over a hollow chamber of considerable size. Small gravels were used to fill gaps between the larger stones. A thick layer of soil formed an outside skin with additional stones added to stabilize the exterior layer. The combined material rendered the oven airtight. Access to the internal chamber was gained through a single narrow passageway at the base of the

structures. At Feature 6, a rectangular opening was supported by an iron bar (a fish plate used to join rails together) and flat rock lintel. Four of the five structures had rock slab floors while the fifth was dirt. Three ovens, Features 4, 40, and 43, were constructed into the banks of major washes, while Features 6 and 12 are basically free-standing structures on relatively flat surfaces of the camp area. Use of topographic features such as washes allowed the operator/baker access to the oven opening with little or no bending at the waist. Because of structural collapse, it is not known if the ovens contained vent holes.

For purposes of comparison, Figures 1A and 1B depict the measurement points used for all five oven features for standardized measurements. External measurements were taken prior to excavation, while internal measurements were made after removal of interior fill. Resulting dimensions, where obtainable, for all oven features are presented in Table 2.

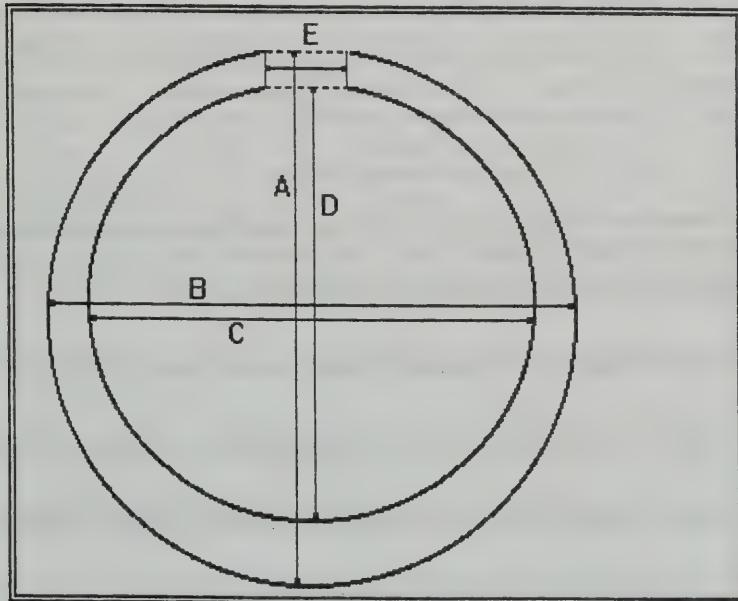


Figure 1A. Oven measurement points, plan view.

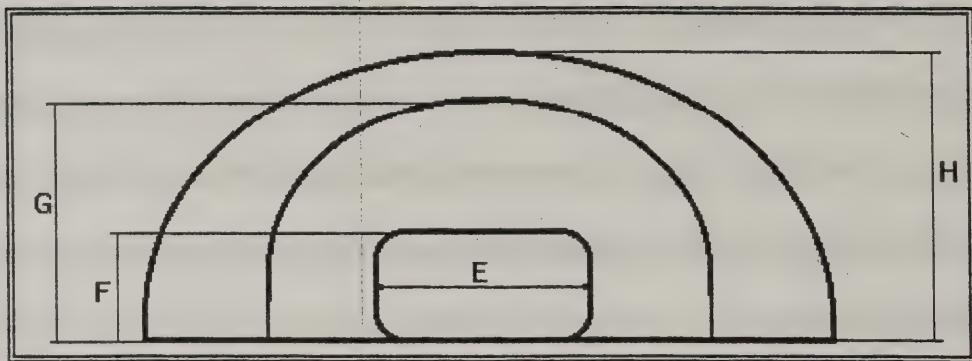


Figure 1B. Oven measurement points, profile view.

Table 2. Domed Rock Oven Dimensions.

Dimension / Feature No.	4	6	12	40	43	Mean
Exterior (A)	96 in.	105 in.	132 in.	132 in.	132 in.	119 in.
Exterior (B)	116 in.	115 in.	108 in.	144 in.	180 in.	132.6 in.
Interior (C)	40 in.	43 in.	42 in.	52 in.	50 in.	45.4 in.
Interior (D)	45 in.	46 in.	45 in.	52 in.	55 in.	48.6 in.
Opening Width (E)	16 in.	18 in.	18 in.	31 in.	26 in.	21.8 in.
Opening Height (F)	Undetermined	15 in.	Undetermined	Undetermined	Undetermined	15 in.
Int. Height (G) *	19 in.	21 in.	24 in.	20 in.	24 in.	N/A
Ext. Height (H) *	32 in.	30 in.	29 in.	36 in.	30 in.	N/A

* Note: Due to the collapsed nature of each oven, the external and internal heights represent the measurements of standing portions of the ovens taken from the floor.

Once oven floor dimensions were obtained upon completion of their excavation, internal volume and floor spaces were calculated. Internal capacity was calculated using the formula for finding the volume of a sphere divided in half and again by the number of cubic inches in a cubic foot. In written form, the formula may be presented as $\text{Volume} = (R^3 \times \pi)4 / 3 \div 2 \div 1728$, where the radius "R" (half of the averaged C & D axes lengths at floor level) is cubed and multiplied by pi (3.1417), and again by 4, then divided by 3 and again by 2. The number is then divided by 1728,

the number of inches in a cubic foot, resulting in cubic feet or volume of the oven chamber. Capacities presented in Table 3 for each of the oven features are approximations based on ideal spherical cavities and may, or, may not, represent actual volumes for specific ovens. Standardized calculations, however, provide a useable base from which comparisons may be obtained.

Table 3. Internal Oven Capacities and Floor Area.						
Category/Feature	4	6	12	40	43	Mean
Capacity/Volume	11.63 cu. ft.	13.35 cu. ft.	12.47 cu. ft.	21.30 cu. ft.	21.92 cu. ft.	16.13 cu. ft.
Floor Area	9.81 sq. ft.	10.78 sq. ft.	10.30 sq. ft.	14.74 sq. ft.	14.99 sq. ft.	12.12 sq. ft.

Since the floor area of each oven is slightly elliptical in shape, one axis being slightly longer than the other, the approximate area was calculated using $\text{Area} = \pi \times \text{length} \times \text{width} \div 4$. The resulting number in square inches is then divided by 144, the number of square inches in a square foot, to provide the surface area of each floor in square feet for comparison purposes. Oven floor surface area data is also provided in Table 3.

TRASH CONCENTRATIONS

Aside from the general scattering of cultural material across the site, nine trash concentrations were recorded and designated TC-1 to TC-9. Some concentrations were directly associated with other features such as TC-1, a large concentration of shattered alcoholic bottles, and its association with two side-by-side tent pads, Features 3A and 3B. Other trash concentrations were found in relative isolation such as TC-2, a small tin can concentration, and TC-3, an extensive concentration of small and large industrial-size tin cans. TC-4 to TC-9, located within the camp proper, differed from the first three concentrations in diversity of recorded artifact material. Typically, camp trash

concentrations included both wood charcoal and soft coal ash and slag, alcoholic bottle fragments, assorted tin cans or fragments thereof, wire nails, charred bone material, and an occasional personal item. A trowel probe of three concentrations revealed that they are surface manifestations and have minimal depth.

EXCAVATED FEATURES AND RECOVERED ARTIFACTS

Early assumptions of an intensive short term occupation with shallow artifact deposition, typical for construction camps of this nature, were met. Excavation of twelve selected features for the purpose of assessing depth and vertical accumulation of artifactual material determined that subsurface deposition was minimal giving credence to the assumption. In short, what was observed on the surface was what was retrieved in the screen and/or further defined by excavation. A total of forty 5 ft. by 5 ft. units, accounting for approximately 1,000 sq. ft. of the site, were excavated. Six tent pads, a hearth, and all five of the domed rock ovens were selected for excavation. Brief descriptions of the excavated features are provided below. Associated artifacts recovered in excavations are presented in Table 4. Table 4 also includes a column of artifacts selectively surface collected for their uniqueness or representativeness, thus accounting for all 748 recovered material remains.

Table 4. Excavation Recovered and Selected, Surface Collected Artifacts.

Class/Type & Feature	3A	3B	4	6	9	12	23
<i>Beverage</i>							
Amber	91		5	1	30		
Amethyst	5	1					
Clear/Lt. Green	10		8				24
<i>Cap/Wire Closures</i>							

Class/Type & Features	3A	3B	4	6	9	12	23
<i>Clothing</i>							
Buckle					1		
Button, Glass/Pearl					1		
Button, Metal					3	1	
Pant Rivet						1	
Shoe Eyelet/Hook					1	4	
Shoe Leather				3		4	
Shoe Nails							
Shoe Sole							
Shoe Tap							
Suspender						1	
<i>Construction</i>							
Hose				1			
Lumber, Milled	3	1	2	2			
Nail, Wire	4			1	11		22
Nail, Cut	1	1	1		1		
Railroad Bolt & Nut							
Railroad Spike							
Railroad Tie Plate							
Screw	1						
Wire, Thick							
Wire, Thin	1						1
<i>Food Prep./Serve</i>							
Ceramic Cup							
Ceramic Fragment					1		
Flour Sifter							
Spoon							
<i>Food & Ed. Storage</i>							
Bone, Large Mammal			16	26	7	3	7
Can Fragment	1	1		1	16		
Can Key (opener)							

Class/Type & Feature	3A	3B	4	6	9	12	23
Spice							1
<i>Household/Domestic</i>							
Furniture/Hardware			1				
Tent Pole Spike							
Window Glass		3					
<i>Personal</i>							
Harmonica							
Medical/Health Product						2	
Pipe							
Tobacco Tin/Case							
Weapon Casing							
Watch							
Writing Implement							
<i>Unknown</i>							
Bone/Cuticle							
Metal	4				1		
Wood	7				26		2
TOTALS	128	7	33	35	99	16	57

Table 4 (continued). Excavation Recovered and Selected, Surface Collected Artifacts.

Class/Type & Feature	27	32	40	43	46	Selected	TOTALS
<i>Beverage</i>							
Amber			8	8	26		169
Amethyst			1				7
Clear/Lt. Green			4	7	4		57
Cap/Wire Closure	2		1			4	11
<i>Clothing</i>							
Buckle							1
Button, Glass/Pearl	1	1	1		2	4	10
Button, Metal	4		1			4	13
Blue River	1					1	1

Class/Type & Feature	27	32	40	43	46	Selected	TOTALS
Shoe Eyelet/Hook	2	1	1		1	2	12
Shoe Leather			2	1			10
Shoe Nails					10		10
Shoe Sole					4		4
Shoe Tap						1	1
Suspender		2			2	1	6
<i>Construction</i>							
Hose						1	2
Lumber, Milled							8
Nail, Wire	46	15			8		107
Nail, Cut							4
Railroad Bolt & Nut						1	1
Railroad Spike						2	2
Railroad Tie Plate						1	1
Screw							1
Wire, Thick	1		1				2
Wire, Thin							2
<i>Food Prep/Serve</i>							
Ceramic Cup						1	1
Ceramic Fragment							1
Flour Sifter						2	2
Spoon		1					1
<i>Food & Fd. Storage</i>							
Bone, Large Mammal			129	10	5	6	209
Can Fragment	3		1	1			24
Can Key (opener)	1						1
Spice							1
<i>Household/Domestic</i>							
Furniture Hardware						2	3
Tent Pole Spike						1	1
Window Glass	2				3		5
<i>Personal</i>							

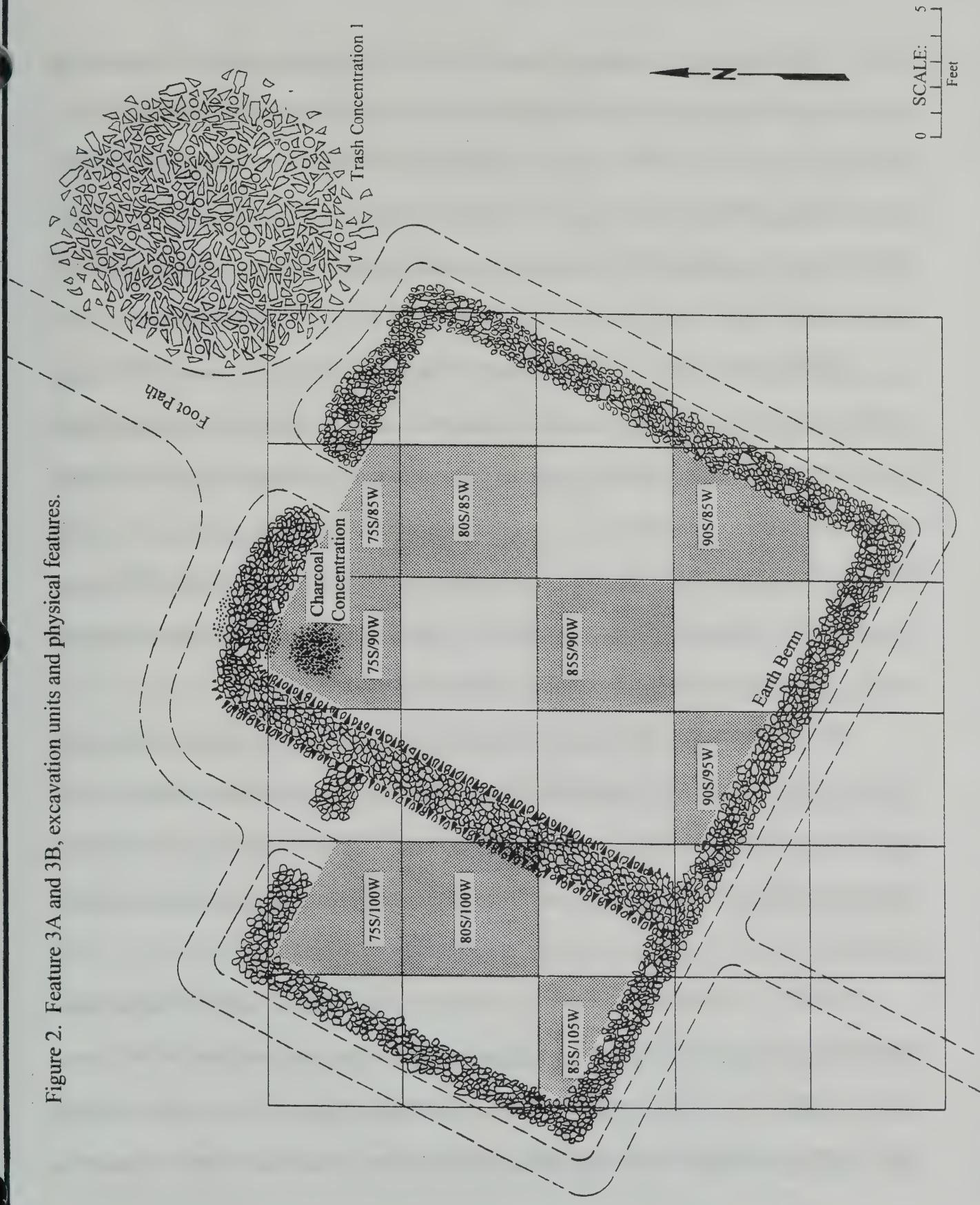
Class/Type & Feature	27	32	40	43	46	Selected	TOTALS
Harmonica	1						1
Medical/Health Product							2
Pipe	1						1
Tobacco Tin/Case	1						1
Weapon Casing			1			1	2
Watch			1				1
Writing Implement		4					4
Unknown							
Bone/Cuticle				1			1
Metal							5
Wood					3		38
TOTALS	66	24	152	28	68	35	748

Feature 3A and 3B. Located approximately 110 ft. south of the railroad grade, Feature 3 collectively consists of two side-by-side tent pads, one larger than the other with a narrow earth berm between the two (Figure 2). Entrances to both tents are located on the north side, facing the railroad grade. Pad dimensions for Feature 3A are approximately 15 by 18 ft. while Feature 3B measures 7 by 11 ft. Vague footpaths lead up to the entrance of the larger and smaller tents, around the exterior of both, and away to a nearby drainage. TC-1, a major concentration of fragmented alcoholic bottles, is located adjacent to the northeast exterior corner of the larger tent. A charcoal concentration was identified in the northwest corner of the Feature 3A while none was identified in association with Feature 3B.

Nine partial and/or complete 5 ft. by 5 ft. excavation units were subjected to excavation and resulted in the recovery of 135 artifacts for the combined features of 3A and 3B.

75S/85W: Unit placement facilitated excavation of the internal doorway area of Feature 3A.

Figure 2. Feature 3A and 3B, excavation units and physical features.



Excavated soil consisted of a sandy silt, light tan in color, and contained small amounts of subangular gravel. Soil removal was stopped at a depth of three inches when a significant increase in gravel was encountered. A sparse sprinkling of charcoal was noted on the surface in the southeast corner of the unit. Recovered artifacts include 16 amber bottle fragments (a partial base is embossed with "R&CO / 27"), 2 light green bottle fragments, 3 wood fragments, a bent wire nail shank 3 7/8 inches in length without a head, and a broken 3/8 inch wood screw 2 1/8 inches in length.

75S/90W: Immediately west of the doorway of Feature 3A, excavated soil consisted of a light tan sandy silt containing small amounts of subangular gravel. Soil was removed to a depth of three inches below the ground surface with significant increase in gravel. Charcoal deposits with some coal slag was noted to a depth of 1 1/2 inches from the surface before disappearing. Recovered artifacts include 7 amber bottle fragments, a short segment of twisted wire, a wire nail 1 1/2 inches in length (4d size), a segment of a can rim exhibiting a jagged cut edge, and 3 zinc caps of unknown function and association measuring 1/2 inch in diameter by 3/16 inch in height.

75S/100W: Located at the entrance of Feature 3B, excavated soil consisted of a light tan silt containing small amounts of subangular gravel and was excavated to a depth of three inches when a significant increase in gravel and rock was encountered. A 2 inch length of 1 x 1 inch milled lumber, and a 1 5/8 inch diameter metal cap of a hole-in-top can were collected from the excavation of this unit.

80S/85W: To the interior of Feature 3A, excavated soil from this unit consisted of small subangular gravel of a limited degree in a light tan sandy silt matrix and was removed to a gravel layer at a depth of 2 1/2 inches below the surface. Collected artifacts include 3 pieces of clear to slightly amethyst bottle glass, 4 pieces of light green bottle glass, a 1 1/2 inch nail (4d), a 1 inch tack,

and 9 fragments of amber bottle glass, a segment of neck represents a ring or oil finish.

80S/100W: Excavated soil from the interior of Feature 3B was comprised of limited amounts of subangular gravel in a sandy silt matrix, light tan in color. Excavation was stopped at an significant increase in gravel three inches below the surface and a lack of artifact material. Recovered artifacts include three pieces of window pane glass, all .09 inch, and a single 1 ½ inch machine cut nail (4d).

85S/90W: An interior unit of Feature 3A, excavated soil consisted of a light tan sandy silt containing small amounts of small subangular gravel and was excavated to a depth of three inches. Three light green and one slightly amethyst bottle glass fragments were all that was recovered in this unit.

85S/105W: Excavated soil from this unit consists of sandy silt with limited quantities of small subangular gravel and light tan in color. Excavation was stopped at a level of 2 ½ inches below the surface with an significant increase in gravel content. Located in the southwest corner of Feature 3B, this partial unit rendered one fragment of amethyst bottle glass.

90S/85W: At the southeast corner of Feature 3A, 59 amber bottle glass fragments, a single light green bottle glass fragment, and 7 wood chips constitute the cultural material recovered from this unit. The excavated soil was a light tan sandy silt that included small amounts of subangular gravel. Excavations was terminated at a depth of three inches below the surface when a significant layer of gravel was encountered.

90S/95W: Light tan in color, excavated soil from this partial unit consists of sandy silt that includes small amounts of subangular gravel and was excavated to a depth of 2 ½ inches. Located in the southwest corner of Feature 3A, a ½ inch diameter zinc cap of unknown function, a thin,

slightly amethyst bottle glass fragment, and a 3 inch wire nail (12d) were collected in excavation.

Feature 4. Feature 4 is a collapsed domed rock oven located at the extreme west end of the work camp (Figure 3). The feature is built into the upper level on the east bank of a major north/northeast flowing wash channel, approximately 3 ft. above the wash bottom. Constructed of limestone rocks with a soil covering, the chamber floor is slightly elliptical in shape, larger front to back than from side to side. Inward collapse of the oven chamber eliminated vault height, position of chimney/flue, and height of the opening. Removal of interior fill materials revealed a floor consisting of tightly spaced, flat, sub-rectangular limestone slabs. The first course of wall boulders abutted the slab floor at a 90° angle rising to a height of 12 to 14 inches above the interior surface. Resting upon the first tier, each succeeding course was positioned so as to reduce that course's circumference, thus contributing to the internal vault or dome. All rock material exhibited some degree of smoke blackening on surfaces exposed to the oven interior. Refer to Table 2 above for basic measurements.

Excavation of fill as a collective level revealed an intermixed assortment of packrat midden, thermally affected construction elements, gravelly soil, charcoal, and assorted artifacts (n=33). Bone located in lower levels of the internal chamber was seen to have greater frequency to the rear. The packrat midden was also found to be in greater quantity to the rear of the oven. Recovered artifact material includes 8 light green and 5 amber bottle glass fragments, 2 pieces of milled lumber (1 x 2 1/2 x 10 inches and 3/8 x 1 3/4 x 11 1/2 inches), a trunk or furniture hinge, a bent 7 1/2 inch square-sided spike, and 16 fragments of large mammal bone, primarily ribs.

Feature 6. Constructed on flat ground west of a minor north flowing surface drainage

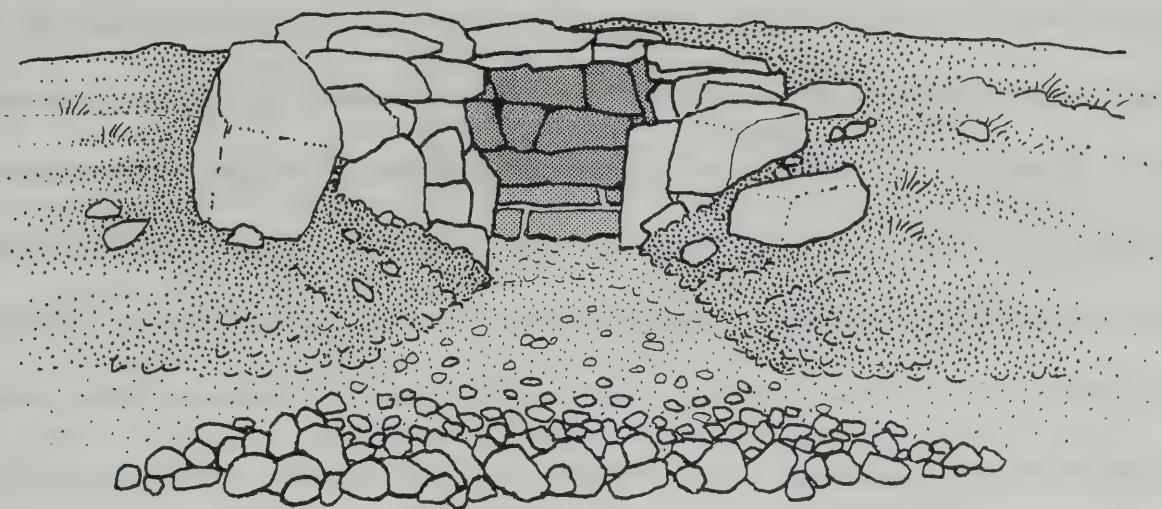
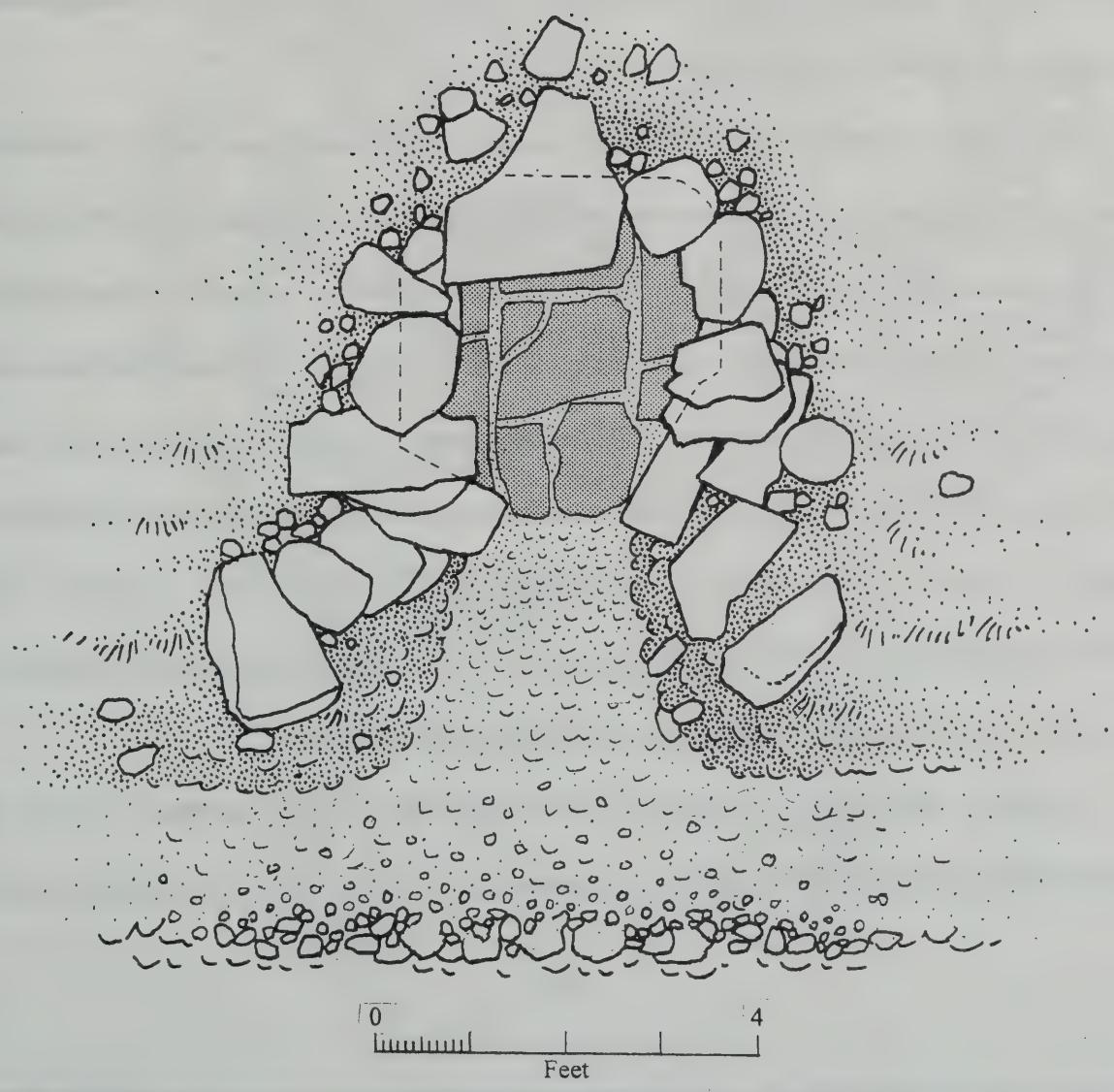


Figure 3. Front profile and plan view of Feature 4, domed rock oven, after excavation.



channel, Feature 6 is the freestanding remains of a collapsed domed rock oven (Figure 4). Oven height is approximately 30 inches above the surrounding ground surface. Construction materials consist of locally derived limestone rocks dry laid in multiple courses with sand and gravels used to fill gaps and cover the outside. Upper courses of the chamber have collapsed inward eliminating construction details regarding any chimney/flue element. A chamber access opening, 15 inches high by 18 inches wide, was found intact with a lintel consisting of two flat rocks supported by an iron railroad rail splice bar (fish plate in railroad terminology). The opening is oriented to the northeast and facing the drainage channel. Removal of the interior fill material has revealed a slab lined floor slightly elliptical in shape. Both the floor and bottom of the access door were several inches below the present ground level suggesting a limited amount of alluvial filling from the drainage channel. Oven measurements are provided in Table 2.

Excavation of chamber material as a level revealed an intermixed assortment of construction elements (limestone rocks, small pebbles, and soil), charcoal, packrat midden, and assorted artifacts (n=35). Packrat material was greatest at the rear of the oven. All rock material was seen to exhibit some degree of smoke blackening, and some bone material was charred. Recovered artifacts include 26 fragments of large mammal bone, a 1 3/4 inch diameter external friction can lid, a partial amber glass bottle base embossed with "34," one multi-layered, woven-cloth reinforced rubber hose fragment, 2 milled lumber fragments (1 x 1 x 6 inches and 1 1/4 x 1 1/2 x 3 inches), 3 leather shoe/boot fragments, and a 6 1/2 inch wire nail or spike. One of the shoe/boot leather fragments has seven 1/8 inch holes spaced at 3/8 inch intervals along one outside edge.

Feature 9. Measuring 12 ft. wide by 16 ft. in length, this tent pad, like the other pads, has a low earth berm, averaging a foot wide by 2 to 3 inches high at the apex, circumscribing the gravel-

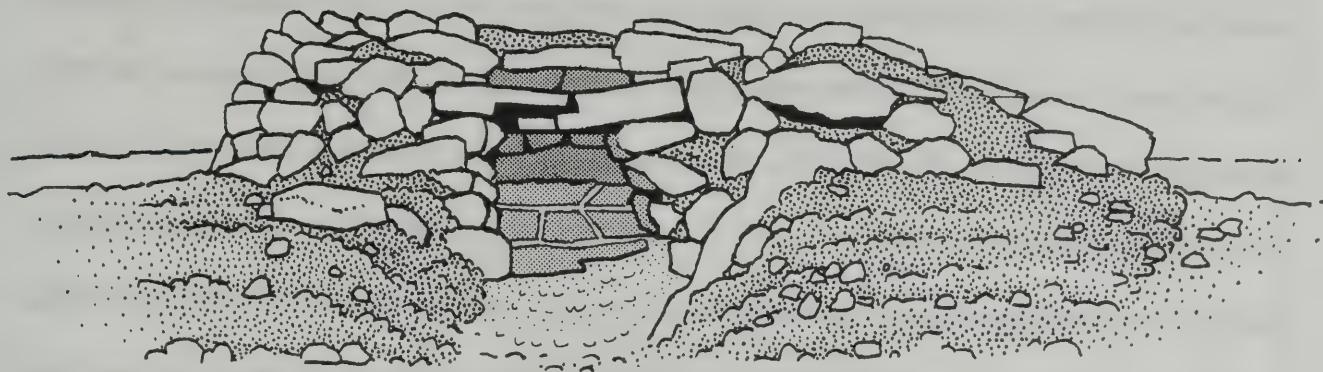
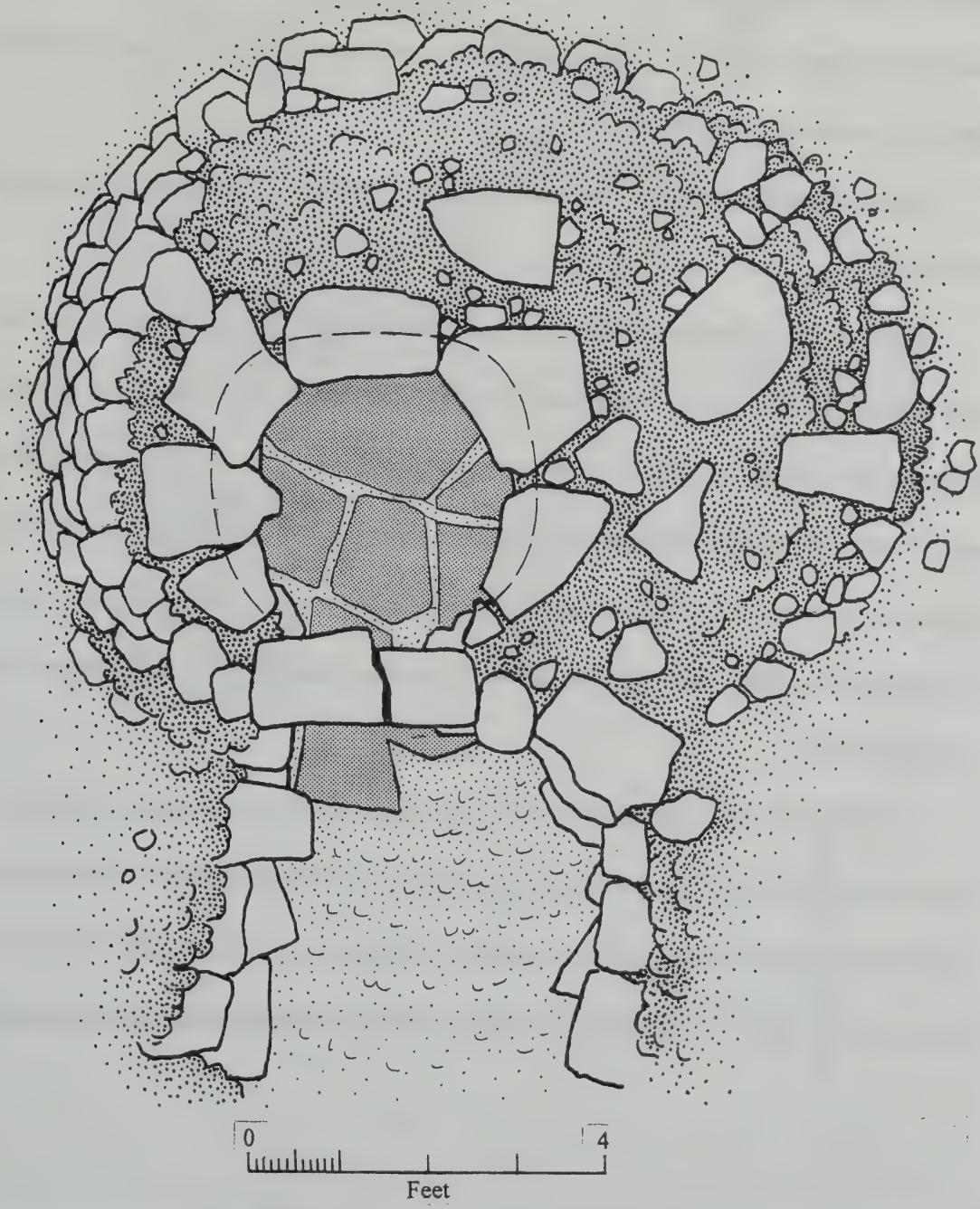


Figure 4. Front profile and plan view of Feature 6, domed rock oven, after excavation.



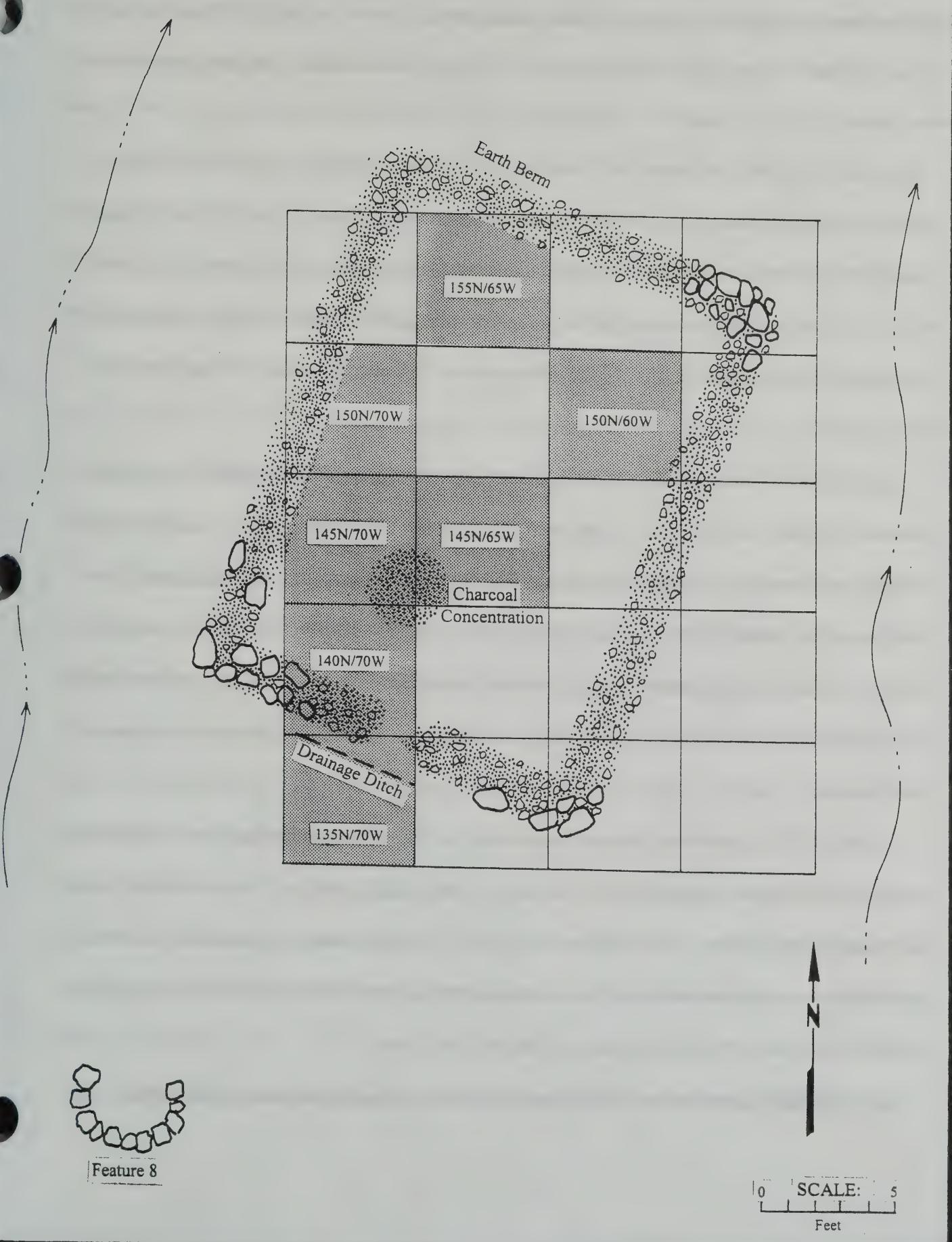
cleared pad (Figure 5). While clearing the gravel material from the pad, tent occupants also stacked small and medium sized rocks at three corners of the berm. A gap in the central portion of the berm situated on the south side facing the railroad grade hints to the location of the tent's doorway. Excavation revealed the presence of wood charcoal and coal ash/slag deposits in the southwest quarter of the tent pad. Excavation also revealed a shallow trench which is adjacent and running parallel to the outside of the southern or uphill earthen berm. The channel is thought to have been created to drain surface water runoff away from the tent pad. TC-6, a trash concentration, is immediately west of the tent pad and may have been used by the occupants of this pad for the disposal of unwanted items.

Seven complete and/or partial 5 ft. by 5 ft. units were excavated and resulted in the recovery of 99 artifacts.

135N/70W: Located externally of the south facing doorway, excavation soil consisted of a sandy silt, light tan in color, and contained limited quantities of small subangular gravel. Excavation proceeded to a depth of three inches where a significant increase in subangular gravels was encountered. A shallow 5 inch wide by 2 inch deep trench was noted in the gravel layer based on texture and soil color. Artifacts collected include 8 amber bottle glass fragments, one bent 2 1/2 inch wire nail (8d), a small 1 inch metal buckle, a 4-hole pearl button, 7 wood chips, and 7 unidentifiable bone fragments.

140N/70W: Situated to the inside of the doorway, soils excavated from this unit consisted of light tan sandy silts with a limited quantity of small subangular gravel. The unit was taken down approximately three inches below the surface before encountering a layer of increased gravel. A shallow, sparse deposit of charcoal and coal ash/slag was noted in the northeast corner of the unit,

Figure 5. Excavation units and physical features of Feature 9.



part of a larger concentration. Included in the collected remains are 6 wood chips, a 2 inch wire nail (6d), a 1 1/4 inch wire nail (3d), 16 fragments of a hole-in-top can lid, and a single white earthenware ceramic fragment of unknown vessel form.

145N/65W: Roughly located in the center of the tent pad, soil in this unit was consistent in texture and color with other excavated feature units. The unit was taken to a depth of three inches. A shallow and sparse concentration of charcoal and ash/slag was noted in the southwest corner of the unit. Artifacts recovered as a result of unit excavation consist of a small, crumpled fragment of lead or tin foil, two 1 1/2 inch wire nails (4d), and one each 1 1/4 inch (3d) and 1 3/4 inch wire nails (5d).

145N/70W: Vestiges of charcoal and ash/slag were present in a shallow and sparse concentration in the southeast corner of the excavation unit that consisted of light tan sandy silt soil including small amounts of subangular gravel. Depth of the unit was taken down to three inches below the surface where an increase in gravel was noted. A square spike measuring 8 1/4 inches in length, 11 amber glass fragments primarily representing a bottle neck, 10 wood chips, and one each 1 1/2 inch (4d), 1 3/4 inch (5d), and 2 inch (6d) wire nails are represented in the recovered material from this unit.

150N/60W: Situated near the northeast corner of the tent, excavated soil had a sandy silt texture, light tan color, contained small amounts of subangular gravel and was excavated to an approximate depth of three inches below the surface. Recovered from this unit were two metal overall buttons; a scroll pattern is inscribed on a band between two raised ridges. Remnants of cloth remain attached between the button face and the securing rivets.

150N/70W: Eleven amber bottle glass fragments, primarily body shards, and three wood

chips were recovered from a soil matrix consisting of sandy silt. The soil was light tan in color and contained small amounts of subangular gravel. Excavation was taken to a depth of three inches where there was an increase of small gravels and rocks.

155N/65W: Excavated soils removed from this unit located in the northwest corner of Feature 9 contained limited quantities of subangular gravel in a sandy silt matrix, light tan in color. The soil was removed to a depth of approximately three inches below the surface. Excavation resulted in the recovery of a single bent 2 inch wire nail (6d) and a brass shoe/boot lace hook.

Finally, surface collected from Feature 9 as a unique artifact was a metal button embossed with "HAMILTON / CARHARTT" around the outer edges (refer to Figure 13D for illustration). In the center of the button is an embossed trolley car followed by a heart, from left to right across the button face.

Feature 12. Like Feature 6, Feature 12 is a freestanding, partially collapsed domed rock oven (Figure 6). Situated on the northern periphery of the work camp on a flat adjacent to a shallow surface drainage, the oven height is approximately 38 inches above the surrounding terrain. Aside from structural collapse, the feature appears to have suffered from a moderate amount of destruction prior to the present study. Limestone construction elements are scattered immediately in front of the opening. Excavation revealed a rock floor comprised of numerous interlocking, flat surface rocks and a southeast oriented opening. Rather than circular or oval like the other ovens, the floor plan of Feature 12's chamber is shaped in the pattern of a P, where the access opening is represented by the P's leg and the chamber expands to the right or northeast of the relatively straight southwest wall (refer to Figure 6).

Interior oven fill material excavated as a level consisted of extensive charcoal/ash deposits

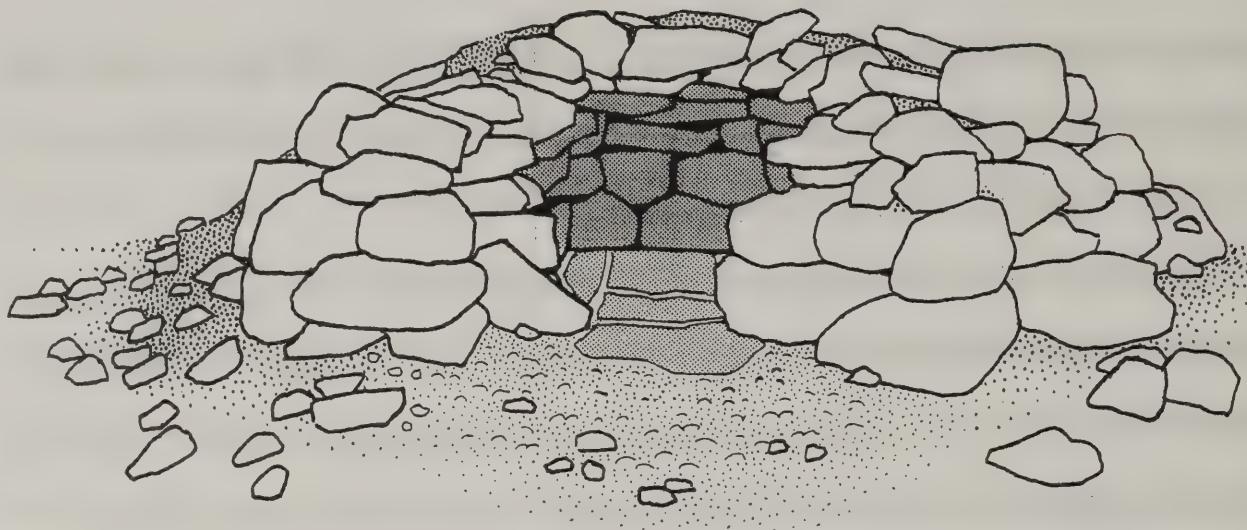
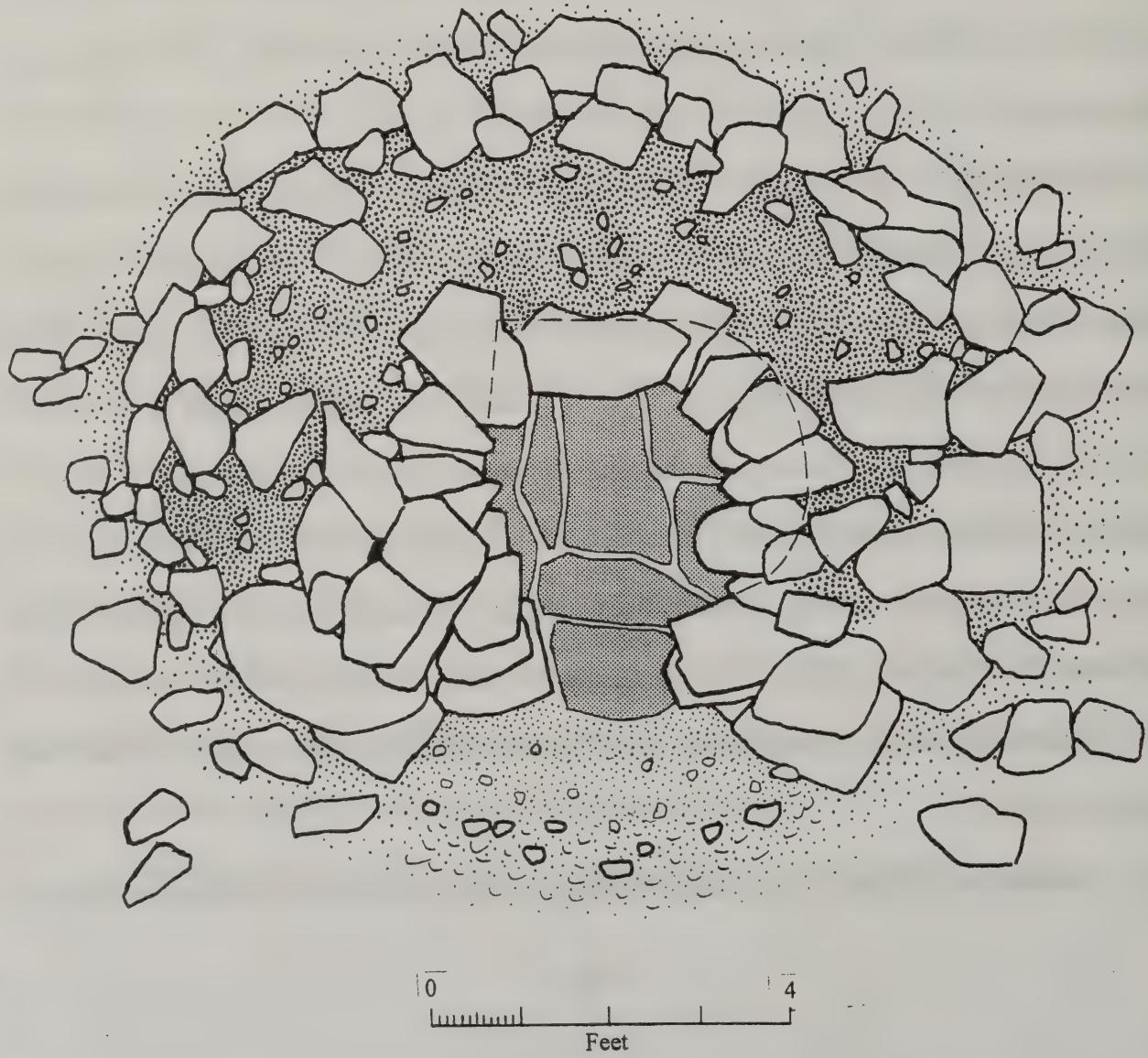


Figure 6. Front profile and plan view of Feature 12, domed rock oven, after excavation.



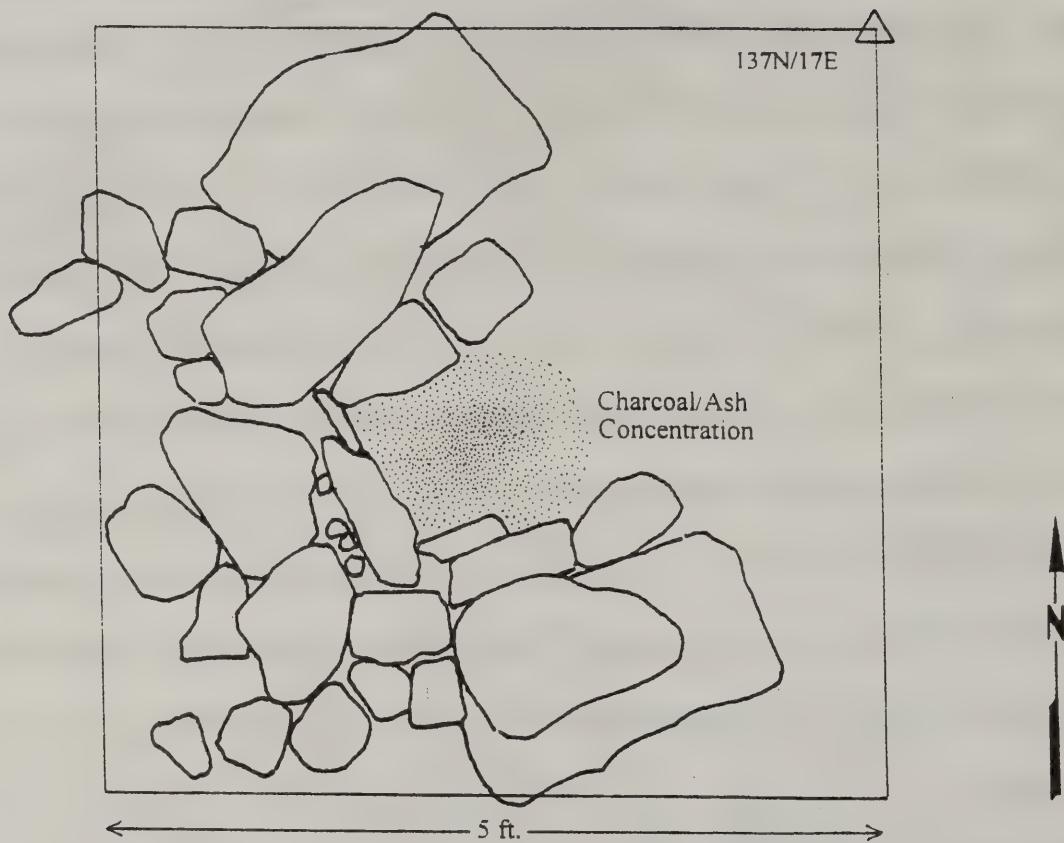
intermixed with packrat midden and artifacts. A total of 16 items were collected as the result of excavation. Recovered artifacts include three bones of a rabbit (*Lepus* sp.), 4 brass shoe/boot eyelets, 2 aqua glass fragments representing the base of a 1 5/8 inch diameter health product bottle (base is embossed with "77" and the side with "---MORE,"), a pant reinforcing rivet, a "HAMILTON / CARHARTT" button, a suspender clasp, and 4 leather shoe/boot fragments.

Feature 23. Situated immediately south of Feature 51, a tent pad, Feature 23 is a fire pit/hearth consisting of an inner and outer ring of stones arranged in a U shaped pattern (Figure 7). Composed of numerous medium to large limestone rocks, the outside ring of stones is stacked two courses high to a height of 14 inches. An inner arrangement of six smaller stones line the inside and create a narrow shelf that may have at one time supported a metal cooking grill. The fire box is 14 inches in width by 17 inches in depth and opens to the northeast. Both soft coal and wood was used as a heat source.

Randomly chosen from the construction camp's 28 hearths, excavated soil of this single 5 ft. by 5 ft. unit consisted of a light tan sandy silt. Because the hearth faced a shallow drainage full of alluvial sediments, little gravel was encountered in the upper level but increased with depth to three inches. Charcoal and coal ash was generally mixed throughout the soil but was naturally concentrated in the hearth area. Charred bone fragments were also observed mixed with the charcoal/ash deposit in the hearth area. Soil at the base of the hearth was stained red from intense heat.

Excavation recovered a total of 57 items. Included are 2 wood fragments, a segment of thin copper wire folded numerously into 3 inch sections, 24 light green bottle glass fragments, and the perforated friction lid of a spice can. Twenty-two small wire nails were recovered within the hearth

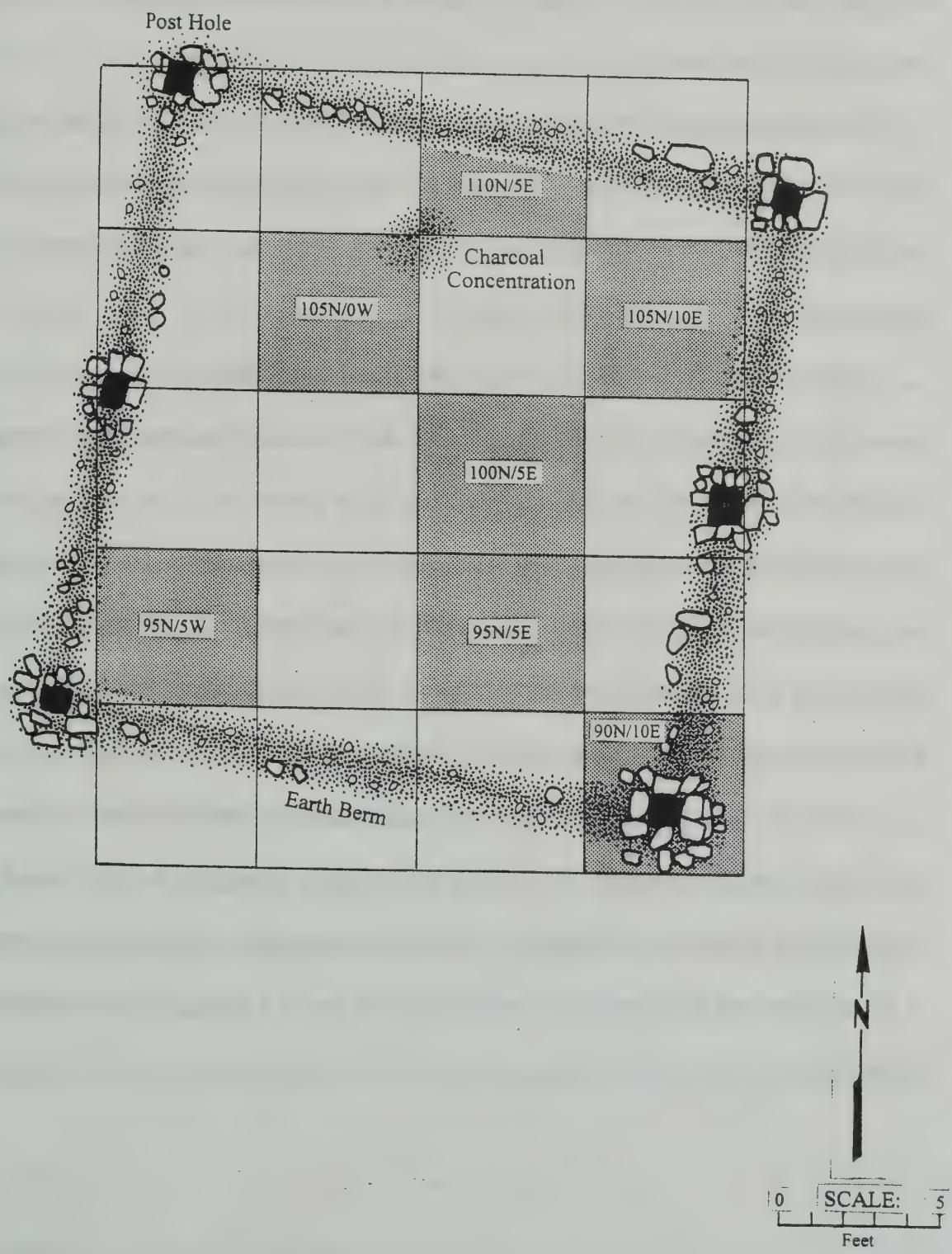
Figure 7. Feature 23, fire hearth.



area. The nails range in size from 1 1/4 inch (3d) to 2 inches (6d) suggesting that milled lumber typically used in packing boxes was burned as a fuel source. Seven small fragments of bone were collected; six are charred and unidentifiable and one is a segment of a bovine rib.

Feature 27. One of four tent pads with evidence of post holes, the gravel-cleared pad of Feature 27 measures approximately 15 ft. by 16 ft. (Figure 8). Depressions of six post holes are evident, one at each corner and one in the center of each long axis side. The depressions are incorporated into the earthen berms, and each post hole measures approximately 9 by 9 inches. When the posts were in place, rocks were positioned around the edges to give additional support. Horizontal lumber may have secured the vertical posts at some unknown height. If the resulting

Figure 8. Feature 27, excavation units and physical features.



framework had been external, tent ropes may have been tied to it. If the framework was internal, a canvas cover may have been stretched over it. No obvious break in the earthen berm was noted that might have revealed the structure's entrance. However, the feature would have provided a wind break for southerly winds and allowed the use of a south opening fire hearth, Feature 26, as an activity area adjacent to the pad. This data suggests that the doorway may have been located on the north side of the structure.

Excavation of seven complete or partial units at Feature 27 revealed an internal feature and recovered several artifact classes. A charcoal/ash lense was identified in the pad's northern half, implying the presence of a stove in this general vicinity, wood charcoal and fragments of coal slag being represented. Recovered artifacts total 66.

90N/10E: Excavation of this unit focused on determining the dimensions of a post hole located in the southeast corner of Feature 27. Soil excavated to the interior of the earthen berm consisted of sandy silt and small amounts of subangular gravel, while the berm and exterior soils were comprised of an increased quantity of subangular gravel and small rocks. Surrounding the post hole, approximately 9 inches to the side, were medium sized rocks. Excavation of the interior portion of the post hole failed to reveal a definitive depth. A galosh-type metal strap was recovered to the interior of the earthen berm and a cork fragment was retrieved from the post hole itself.

95N/5E: Excavated soil in this complete unit consisted of small amounts of subangular gravel in a light tan sandy silt matrix. Exposed at the surface, a large rock was uncovered in the unit. Excavated to a depth of three inches, four artifacts were retained. Included in the recovered material is a brass shoe/boot eyelet and three small wire nails, one at 1 inch (2d) and two measuring 1 1/4 inches (3d).

95N/5W: Situated in the southwest corner of the tent pad, no artifacts were recovered from this unit's light tan sandy silt matrix taken to a depth of three inches where an increase of subangular gravel was encountered.

100N/5E: Roughly located in the center of the Feature 27, this complete excavation unit consisted of some subangular gravel mixed within a light tan sandy silt soil. The unit was taken to a depth of approximately three inches where a significant increase in gravel was encountered. A total of seven artifacts were recovered and include a tin can fragment, a can opening key, and five wire nails ranging in size from 1 1/4 inch (3d) to 2 inches (6d).

105N/10E: Excavation of a complete unit in the northeast corner of Feature 27 recovered 17 objects from a sandy silt soil matrix. Included in the permanent collection is a tin can fragment and 16 wire nails. The nails range in size from 1 1/4 inch (3d) to 2 1/2 inches (8d). Excavation depth was to three inches below the surface where an increase in subangular gravel and a lack of artifacts was noted.

105N/0W: Consistent with the other associated excavation units, soil extracted from this unit was comprised of small amounts of subangular gravel mixed in a light tan sandy silt. Charcoal/ash material was encountered in the northeast corner of the unit at the surface and to an approximate depth of one inch. Taken to a depth of approximately three inches overall, 15 objects were collected from the screen. Included in the unit's collection are 10 wire nails ranging in size from 1 1/4 inch (3d) to 2 1/2 inches (8d), 2 fragments of window pane glass with a thickness measurement of .089 inches, a bent piece of wire, a tin can fragment, and a metal overall button with a spiral pattern on the band between two raised ridges.

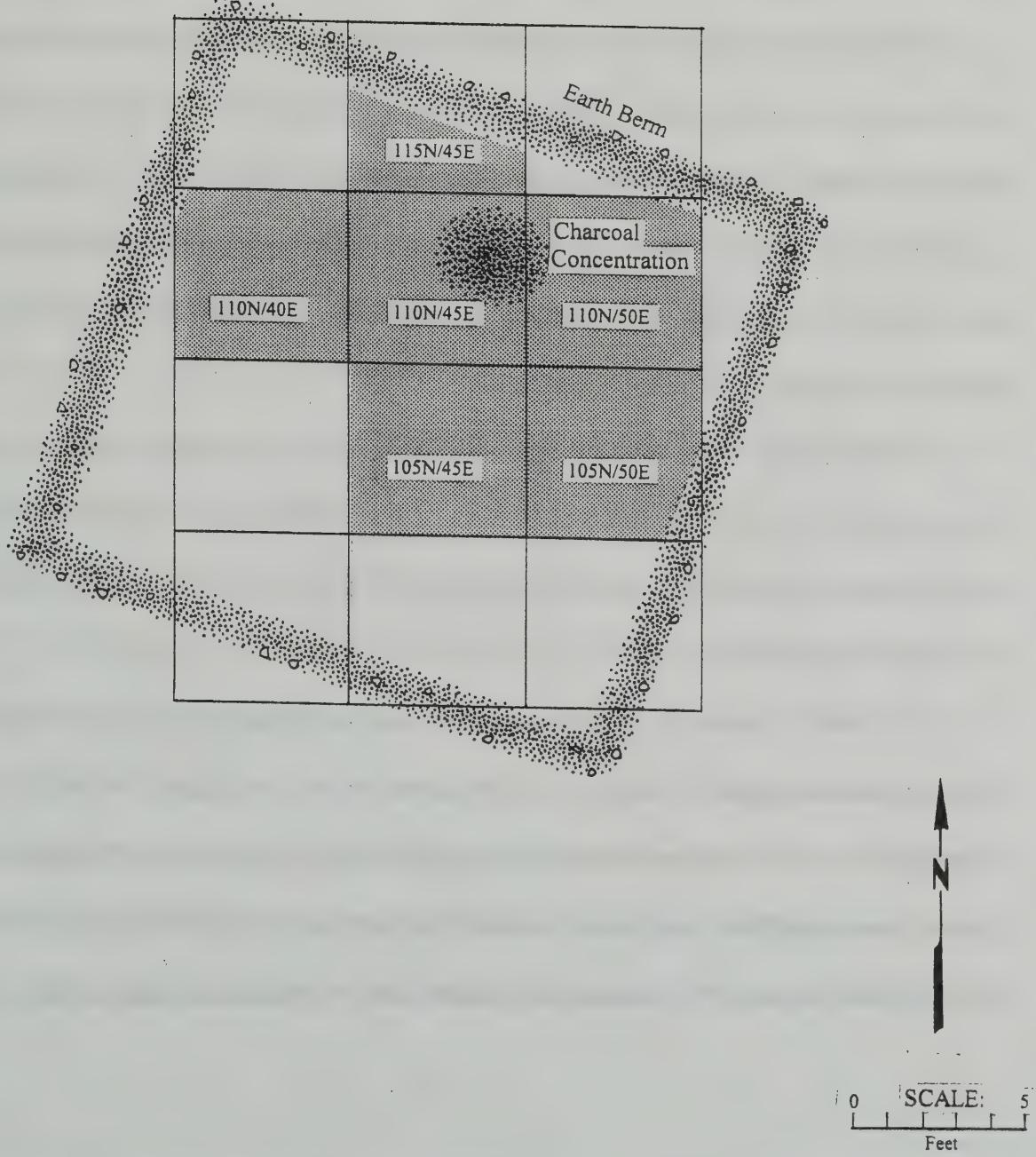
110N/5E: A partial unit against the northern berm was excavated to a depth of three inches.

The excavated soil consist of small amounts of subangular gravel in a light tan sandy silt matrix. A thin charcoal/ash deposit was observed in the southwest corner of the unit. Recovered artifacts include a 4-hole pearl button, a metal attachment ring similar to ones observed on the back of HAMILTON / CARHARTT buttons, and 12 wire nails ranging in size from 1 1/2 inch (4d) to 2 inches (6d).

Seven objects were selectively collected from the surface of the remaining unexcavated units within the earthen berm of Feature 27. A tobacco tin measuring 3 1/4 by 3 1/2 by 1/2 inches, having a slight convex curve and a hinged friction lid, was selected along with a small diameter clay pipe bowl fragment with an incised diamond design (Figure 13A). Two metal overall/jean buttons and a pant reinforcing rivet were selected; one button is embossed with "SHENANDOAH / ★" (Figure 13B), the second button is lettered with "LEVI STRAUS & CO. / S.F. CAL," and the rivet contains "LS & CO / S.F" (Figure 13A and 13O). A segment of the harmonica cover plate, either top or bottom, was recovered. It is embossed with the letters "SILVER / REEDS" positioned inside a raised-line diamond pattern. To the outside of the diamond pattern is an engraved "A" and a partial word ending in raised letter "ER," possibly the last two letters of HONER, a brand name of harmonicas. The remaining item is a flattened bottle closure made from a soft metal and is embossed on its top with "CURTICE BROTHERS CO. / ROCHESTER N.Y." on an outer circle with "PATENTED / SEP 25TH 88" on an inner circle.

Feature 32. Feature 32 is a square tent pad, 15 ft. to the side, surround by the standard earthen berm with no obvious breaks in the perimeter to indicate an entrance (Figure 9). Excavation of six units revealed the presence of a charcoal/ash lense situated in the center portion of the northern pad half implying the presence of a wood stove in this general vicinity and the possibility that the

Figure 9. Physical features and excavation units for Feature 32.



entrance was located at the southern end, away from the stove. Just to the left of the charcoal lense, a thin circular, purple soil stain approximately 4 inches in diameter was noted. Since two pin quills were recovered during excavation within the feature, it is thought that the purple stain is associated with the spillage of writing ink.

Six complete and/or partial units were subjected to excavation at Feature 32 and resulted in the recover of 24 artifacts. Collected from the surface of an unexcavated unit was a suspender adjuster clamp and a suspender hook.

105N/45E: Centrally located, excavated soil consisted of a light tan sandy silt containing limited amounts of small subangular gravel. Three small fist size rocks were exposed on the surface and partially buried. The unit was excavated to a depth of three inches where a significant increase in gravel was encountered. Artifacts recovered in this unit include a metal band used to hold and attach an eraser to a wooden pencil (Figure 13I) and six wire nails ranging in size from 1 1/4 inch (3d) to 3 inches (12d).

105N/50E and 110N/40E: No cultural material was recovered from either of these units located against the east and west walls of the tent pad, respectively. Excavated soil texture and color was consistent with other previously excavated units. The units were excavated to a depth of three inches below the surface.

110N/45E: Consisting of light tan sandy silt soil with small amounts of subangular gravel, this unit was excavated to a depth of three inches below the surface. A large, thin area of charcoal/ash material was encountered on and slightly below the surface in the eastern half of the unit. Recovered artifacts include a replaceable pen quill incised with "EAGLE BRAND CO. / 6 / NEW YORK" (Figure 13K), the metal attachment band for an eraser and pencil crushed at the eraser

end, and four wire nail ranging in size from 1 1/4 inch (3d) and 3 inches (12d).

110N/50E: Recovered from a light tan sandy silt matrix were seven items. The unit was excavated to a depth of three inches below the surface. A small portion of the charcoal/ash deposit previously defined in the above unit was detected in the northwest quarter of this unit. Included in the recovered material is a white glass 4-hole button, a brass shoe/boot eyelet, four wire nails ranging in size from 1 1/2 inch (4d) to 2 inches (6d), and the spoon end of a tin spoon (refer to Figure 15D).

115N/45E: As a partial unit situated against the north wall, the soil texture and color and depth of excavation was consistent with previously excavated units. Recovered items include a single wire nail, 2 inches in size (6d), as well as another replaceable pen quill.

Feature 40. Constructed into the east bank of a major north-flowing, dry wash channel is a large domed rock oven (Figure 10). Built from stones obtained from the wash bed and the boulder strewn terrace to the east, the vault differs from the other ovens in that two lengths of 3/8 inch sheet metal measuring approximately 1 ft. wide by 5 ft. in length were placed across the chamber top in an "X" pattern thereby acting as a support for the stones that formed the roof. A chimney/flue in the dome was facilitated at the back of the chamber by the juxtaposition of the metal plates and a gap in the rocks forming the dome's roof. A majority of the limestone rocks used in the construction of the chamber were fractured from intense heat generated from the internal built fires. Excavations exposed the flat surface of a rock floor composed of large, tight-fitting limestone slabs. The floor of the oven is approximately 2.5 to 3 ft. above the wash bottom and is roughly circular in shape. Access to the chamber is through a 31 inch wide opening of unknown height and faces northwest.

Interior fill material consisted of packrat midden including twigs and other plant material, oven construction elements including soil and gravel for the outer covering, charcoal and small

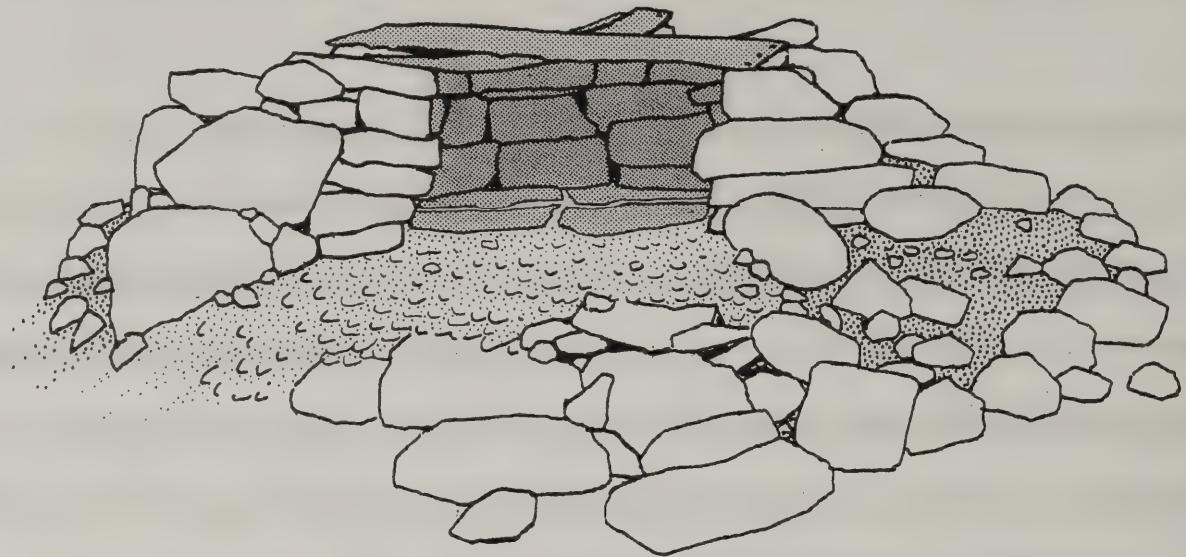
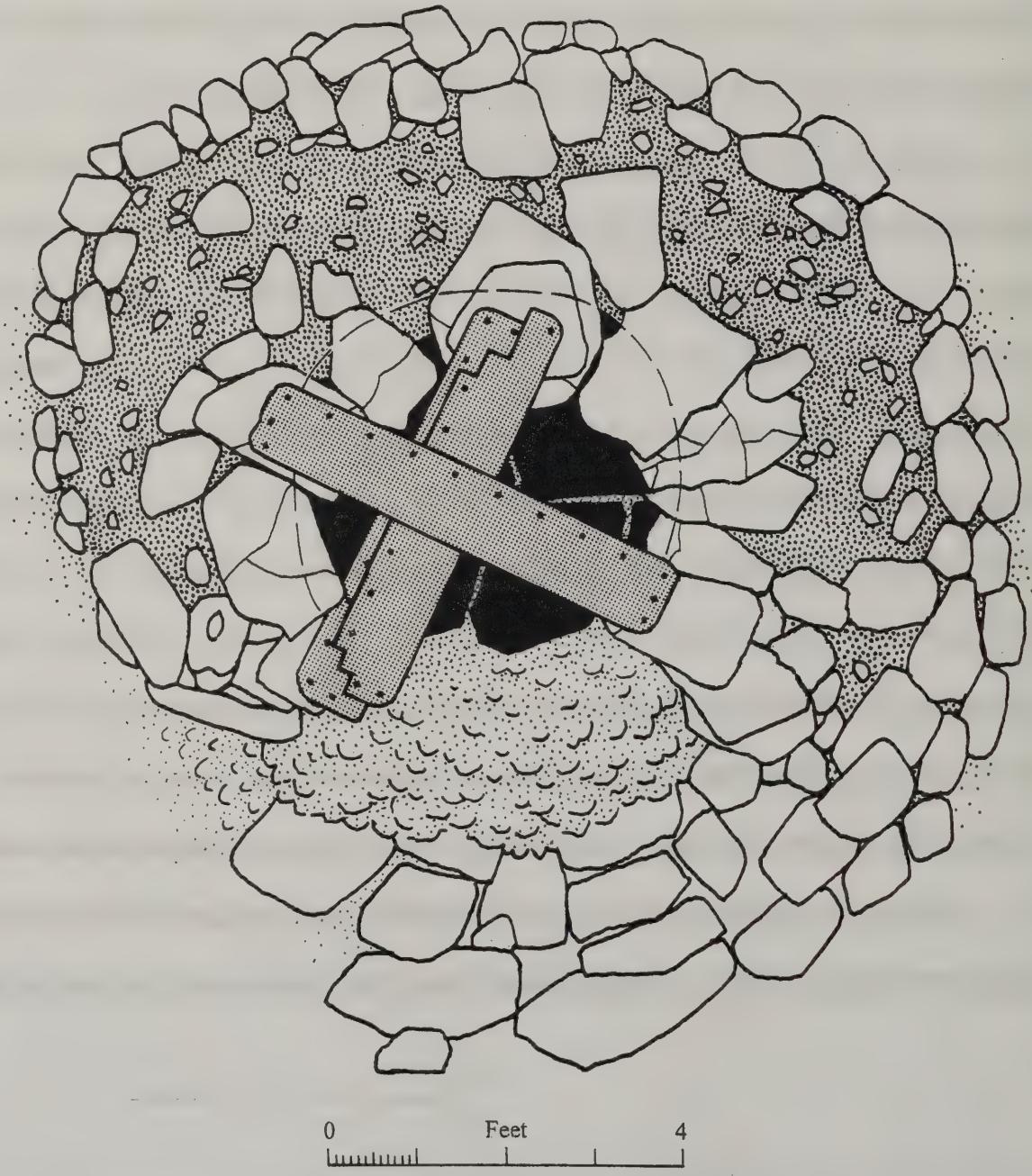


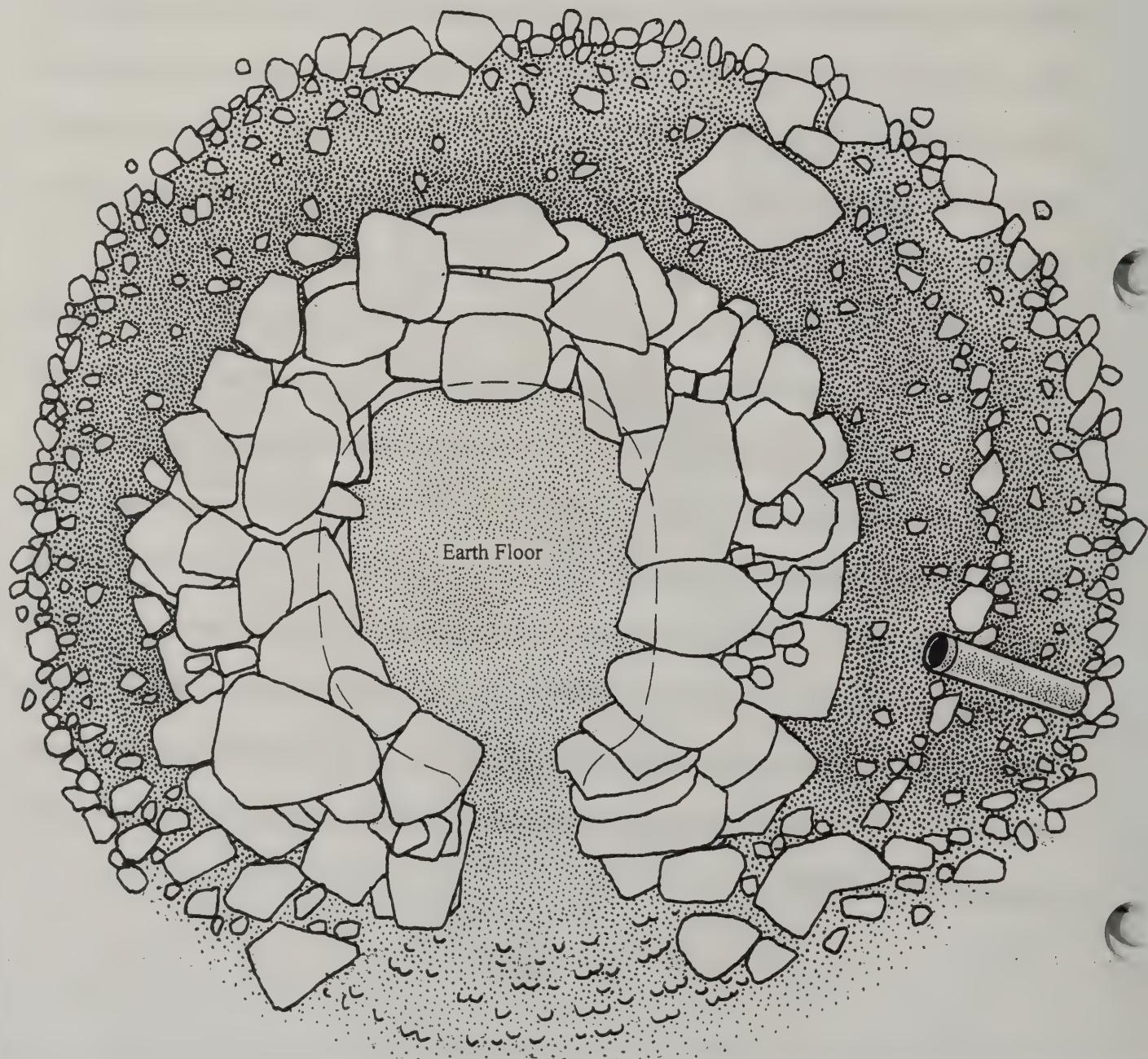
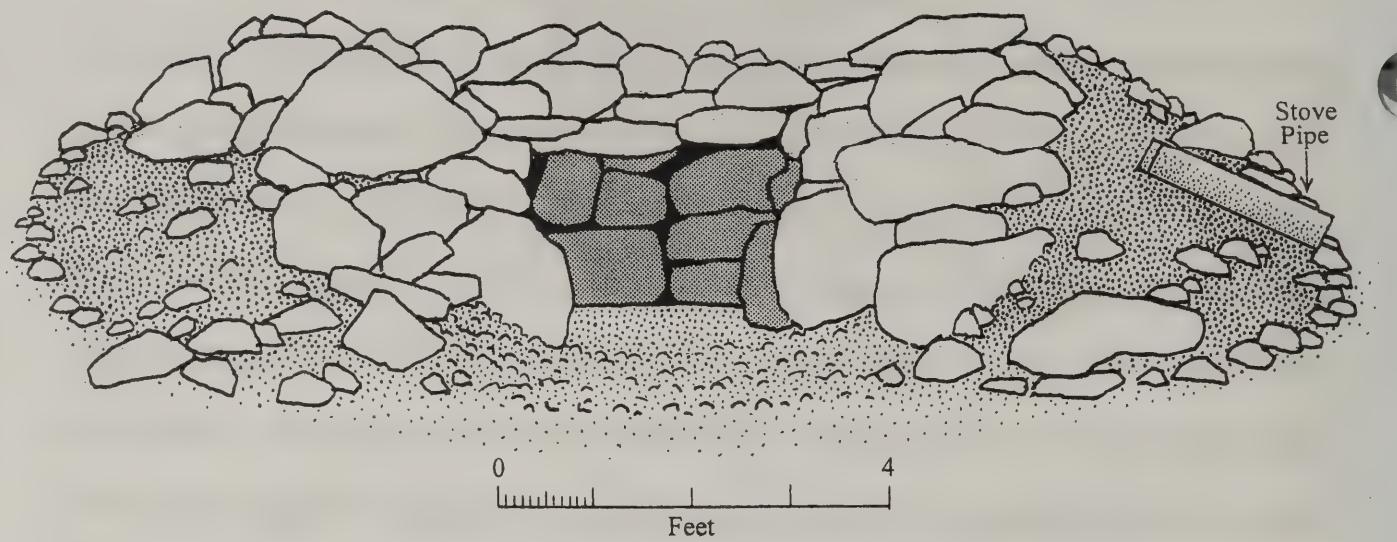
Figure 10. Domed rock oven Feature 40 in front profile and plan view.



pieces of unburnt soft coal, and several classes of artifacts. Included in the artifacts (n=152) are 8 amber, 4 light green, and 1 amethyst bottle glass fragment, primarily representing bottle body or shoulder parts. One recovered bottle closure comprised of a metal cap (rubber washer is missing) and wire harness (Figure 13G). Clothing items consist of a galosh-type metal strap, a corroded metal overall/jean button, a 4-hole pearl button, and 2 fragment of shoe/boot leather, one fragment containing several 1/8 inch holes spaced at 3/8 inch intervals along an outside edge. A small tin can was recovered and measures 1 7/8 inches high by 1 3/8 inches in diameter. The can has an external friction lid. Also included in the unit's inventory is a segment of wire with the ends joined by a twist, the back of a watch with a small gear in place (Figure 13J), and a shotgun casing incised with "REM - UMC / No. 12 / NEW CLUB." Bone material was the most numerous type of artifact recovered during excavation (n=129). Some of the pieces have been saw cut, some burnt, while the majority are unburnt and uncut.

Feature 43. Representing the most easterly of the domed rock ovens, Feature 43 is situated on the gently sloping west bank of a major north flowing dry wash that has been truncated by the construction of the railroad grade (Figure 11). When recorded, the apex of the oven had completely collapsed inward eliminating any details of chimney/flue and height of the access opening. It was determined that the oven had been partially built into the west bank where the floor is a foot below the surrounding ground surface but remains 1.5 ft. above the bottom of the wash. Unlike the previous ovens, no rock slab floor or formal baking surface was bared within the feature's interior despite other shared and similar construction elements and techniques. The southeast facing opening measures 26 inches wide and is of unknown height due to collapse. Overall oven dimensions are provided in Table 3 above.

Figure 11. Domed rock oven Feature 43 in front profile and plan view.



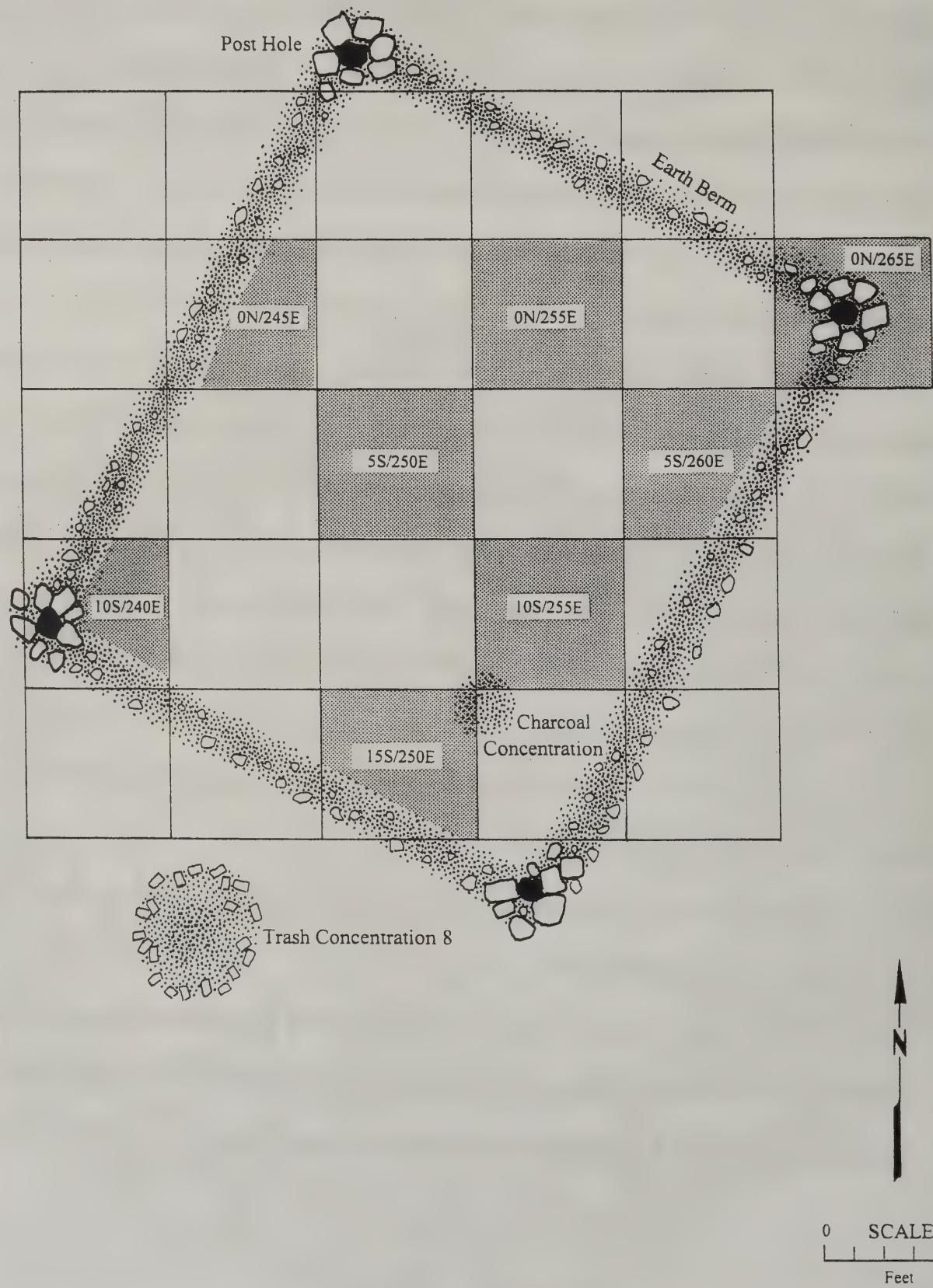
As determined through excavation, the fill material, excavated as a contiguous level, consisted of packrat midden including sticks and vegetative material, construction elements including rock and soil material, and assorted artifacts. Wood charcoal fragments were noted throughout the fill material. Artifacts recovered (n=28) during excavation include 8 amber and 7 light green bottle glass fragments primarily from the bottle body, a piece of shoe/boot leather, a deteriorated tin can top, and 10 fragments of large mammal bone, primarily ribs. Additionally, a small, complete animal cuticle was recovered. It is thought the cuticle is from a wild burro which are known to frequent the area and is not historically associated with the site or oven.

Feature 46. Seventeen by 21 ft. in size, this partially excavated feature is the most eastern tent pad within the work camp (Figure 12). Post holes are located at each corner, but unlike Features 19, 27, and 37, it does not contain additional holes half way along the length sides of the pad. One excavated corner post hole measured 9 inches square by 10 inches deep and was additionally supported by medium size rocks at ground level. Surface recording and excavation within the earthen berms revealed the presence of a thin charcoal/ash lense in the southeast quarter of the pad. No other features or the existence of an entrance were ascertained in association with the pad. TC-8, a large 12 ft. diameter trash concentration, is located immediately south of the pad, however, and is clearly associated with the present feature.

Eight complete or partial excavation units were each excavated to a depth of three inches and resulted in the recovery of 68 artifacts.

ON/245E: Situated against the central portion of the west wall, excavated soil from this unit consisted of light tan sandy silt with some subangular gravel inclusions. Artifacts recovered from the screened soil include 4 wire nails, the longest being 4-inches (20d) and 3 at 1 1/2-inches (4d) in

Figure 12. Physical features and excavation units for tent pad Feature 46.



length, 4 clear and 20 amber bottle glass fragments, a single fragment of window pane glass measuring at .075 inches, a 4-hole white glass button. One amber bottle base fragment is embossed with "--O / 21" and probably represents a bottle manufactured by R&CO, commonly represented at this site.

0N/255E: Soil excavated from this unit consisted of a sandy silt texture, was light tan in color, and contained small amounts of subangular gravel. Located in the north central section of the tent pad, only three artifacts were recovered. One wire nail, 2 1/2 inches (8d) in length, and two small fragments of amber glass were collected.

0N/265E: Excavation in this complete unit involved the excavation of a post hole at the northeast corner of Feature 46. Generally, the soil was a sandy silt with small amounts of subangular gravel except for the earthen berm, which contained an increased quantity of gravel as well as small and medium size rocks. The post hole was generally devoid of gravel except along the sides and at the base of the hole. Fine blow sand filled the hole and included artifacts. Recovered outside of the post hole was a chrome plated suspender adjuster. Within the 10 inch deep post hole, 5 bone fragments, 10 shoe/boot nails, and 4 shoe/boot sole fragments, one containing 14 nails was recovered.

5S/250E: Centrally located within the tent pad, excavated soil in this unit consisted of a light tan sandy silt matrix with small quantities of subangular gravel. Items collected include a brass shoe eyelet, an overall suspender hook, 2 wire nails measuring 1 1/2 inches (4d) and 3 inches (12d) in length, 4 amber bottle glass fragments, and a single shard of window pane glass, .08 inches thick.

5S/260E: Positioned against the east wall of Feature 46, excavation recovered a single piece of wood from a sandy silt matrix, light tan in color, and contained limited amounts of gravel.

10S/240E: Soil from this excavation unit placed in the southwest corner of the tent pad was consistent in texture and color with other previous excavated units at this feature. Only two artifacts were recovered. They include a fragment of wood and a bent 6-inch wire nail.

10S/255E: A thin layer of charcoal was noted in the southwest corner of the generally sandy silt matrix of this excavation unit. A single wood fragment was the only artifact recovered from this unit.

15S/250E: A continuation of the charcoal lense noted in the previous unit was encountered in the northeast corner of this excavation unit situated in the southeast corner of Feature 46. Excavated soil was sandy silt in texture, light tan in color, and contained small amounts of subangular gravel. Two artifacts were recovered from excavated soil and include a white glass 4-hole button and a single shard of window pane glass measuring .072 inches in thickness.

Surface Collected Artifacts. In addition to the artifacts recovered through excavation, 35 artifacts were collected from the surface. Under the classification scheme, four items were collected that represent beverage bottle closures. A soft metal cap has a regal crown embossed on its surface while a second cap has pressed letters that are unreadable due to extensive corrosion. Also included are two glass stoppers, one amber and one light green in color. The amber stopper is 1 1/4 inches tall, has a 1/2 inch, slightly tapered shaft, and a cap measuring one inch in diameter. Significantly tapered, the glass shaft on the light green stopper measures 7/16 inch to 3/4 inch, has an overall height of 1 3/8 inch, and has a flat cap measuring one inch in diameter.

Clothing artifacts consist of 4 metal buttons, 3 glass buttons, a pearl button, a reinforcing rivet, a suspender clasp and hook (Figure 13H), a shoe/boot tap, and a galosh-type strap and corresponding latching hook mechanism. The shoe/boot tap is a semi-circular piece of metal



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B



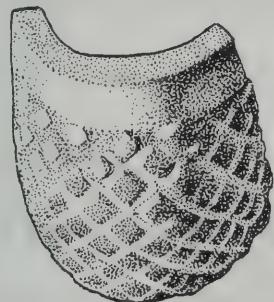
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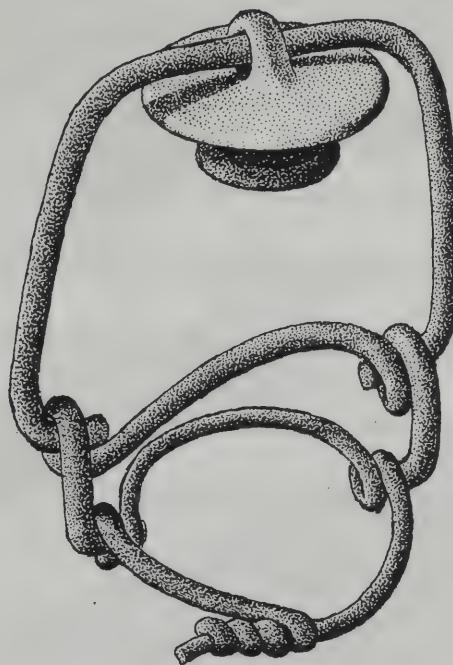
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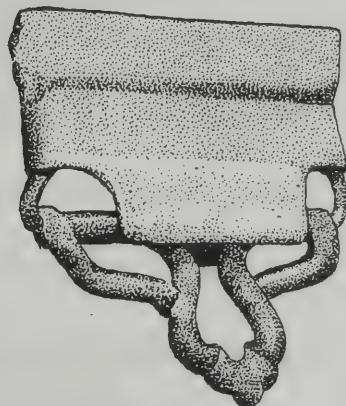
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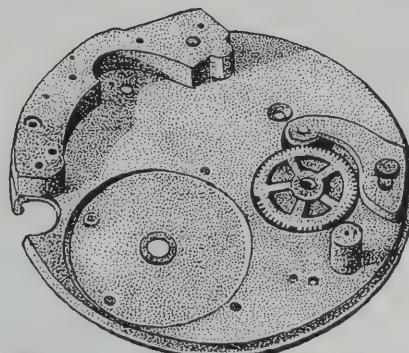
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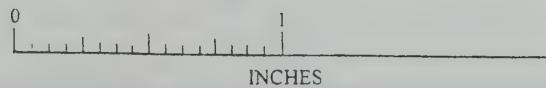
M



N



O



INCHES

Figure 13. Selected bottle closure, clothing, and personal artifacts.

measuring 3 1/4 inches at its widest point and contains five equally spaced 1/4 inch holes and was probably used to prevent excessive ware of a boot heel. One metal overall/pant button and the reinforcing rivet are similar Levis Strauss fasteners recorded above for Feature 27. A unique 5/8-inch metal button depicts an embossed steam locomotive in its center with the letters "S.O.&CO." above and "N.Y." below the image surrounded by a raised ridge rim (Figure 13E). Another metal overall/pant button is embossed with "UTOPIA / ST. JOSEPH" (Figure 13C) while the remaining metal button is incised with "THE" over a trolley car and heart depicted in the center field with "BRAND" below the center field representing the HAMILTON / CARHARTT brand overalls. Two black glass shirt buttons are represented: one measuring 5/8 inches in diameter with 2 attachment holes set in a fisheye (Figure 13M), and the other measuring 3/8 inch, has 4 holes, and has an embossed straight line pattern radiating out from the center (Figure 13N). Both the white glass and pearl buttons have four attachment holes (Figure 13L).

Five artifacts were surface collected as being representative of the construction and, to a limited degree, operation of the railroad shoo-fly and siding. Associated with railroad operation, a railroad car steam hose coupling was collected (Figure 14A). Two retrieved spikes or "dogs," so named because their heads resemble the profile of a canine's head, measure 5 7/8 inch in length by 9/16 inch square (Figure 14B) and 4 5/8 inch in length by 1/2 inch square in cross section (Figure 14D). Used to secure an iron rail to the wooden crosstie, spikes are reported to vary in length and size depending upon the weight of rail, the rail weight measured in pounds per linear yard (Stein 1993). Iron plates were occasionally placed between the rail and tie through which spikes were driven; one such collected plate measures 4 1/8 inches by 8 inches and has four ridges to better hold in the tie (Figure 14C). A collected bolt with nut was used in addition to two opposing fish plates

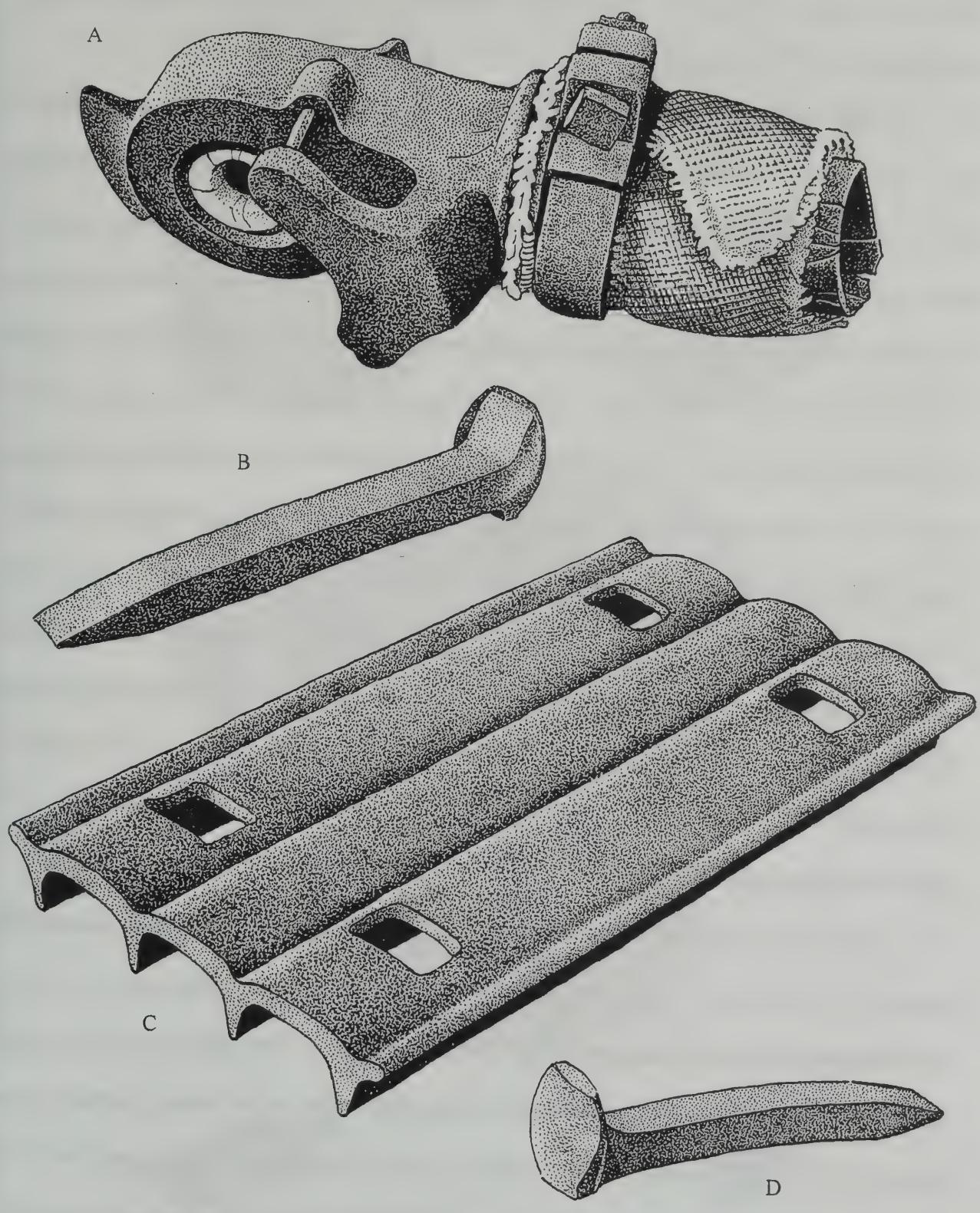


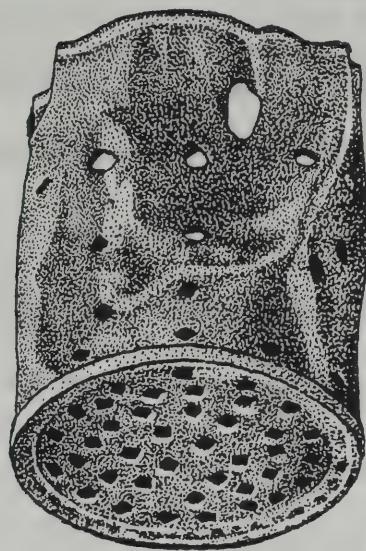
Figure 14. Railroad construction and operation related artifacts.

to connect lengths of rail together. The bolt has a threaded shank diameter of 7/8 inch, a rounded head, and the nut is 1 1/2 inch square.

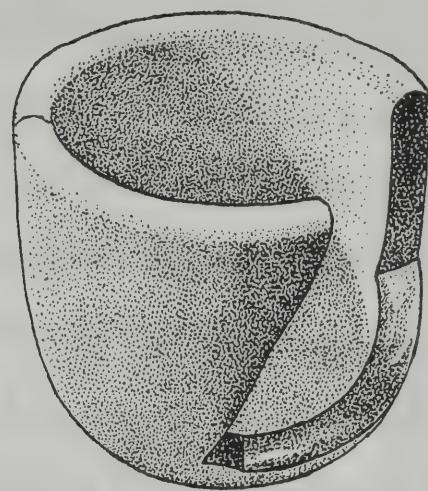
Twelve remaining items were collected and generally represent artifacts here classified as food, food serving/preparation, domestic, and personal. Six large mammal bones were retrieved from TC-5, a trash concentration, but were later determined to be unidentifiable. A mechanical and home-made floor sifter were recovered. The home-made sifter was constructed by removing the top of a hole-in-top can and puncturing the sides and bottom of the can with numerous holes (Figure 15A). Embossed with "ACME / PAT. NOV 4 02," the mechanical sifter has the remnants of a concave screen conforming to the curved shape of four wire beaters attached to a wire crank handle (Figure 15C). A white handleless earthenware cup was included as part of the permanent collection (Figure 15B); a marker's mark is not present on the bottom of the cup. Domestic artifacts include a heart-shaped metal keyhole cover plate and a cast-metal handle from separate pieces of furniture and a metal pike to be inserted in the end of a pole for use with a tent or similar canvas structure (Figure 15E). The last remaining item is a shotgun casing incised with the letters "1901 / NO. 12 / LEADER."

RECOVERED BONE MATERIAL

A significant quantity of large mammal bone (n=209) was recovered during excavations, primarily in the context of the domed rock ovens. The material was analyzed for the lowest taxonomic identification level and general age, juvenile or mature. Although a majority of the bone material was unidentifiable, analysis revealed that identifiable bone (n=74) belongs primarily to beef (*Bos* sp.)(n=59), to a lesser degree deer (*Cervidae* sp.)(n=11), and domestic sheep/goat (*Ovis/ Capra* sp.)(n=1). Identified wild species include three rabbit (*Lepus* sp.) bones and are thought to be



A



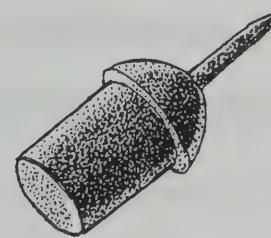
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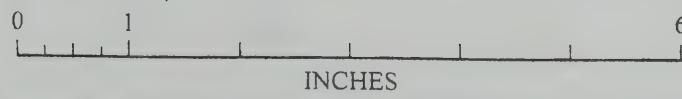


Figure 15. Selected food preparation/serving and domestic artifacts.

intrusive to Feature 12 rather than intentional. Some of the bones had been saw cut, but no other knife cut or chopping marks were observed. Bones representing the hind quarters of a minimum of two deer, a juvenile and a mature individual, were recovered in association with Features 4, 6, and 40. One juvenile deer vertebra showed evidence of being saw cut. The humerus of a juvenile sheep (leg of lamb) is also represented in the collection and was recovered from Feature 43.

Fifty-nine identifiable beef bones representing numerous individual animals of juvenile and mature ages were recovered in association with Features 4, 6, 40, 43, and 46. Based on the identifiable beef bone material, an effort was made to characterize the cuts of beef the bones represent at the processing stage for butchered wholesale meat (Ashbrook 1955). The results are presented in Table 5. Beef mid-sections, consisting of the rib and loin, have the highest representation followed by hindshank and foreshank. Not expressed in the identifiable collection are bones representing the neck, chuck, or brisket. Poorly represented are head and rump bones.

As stated above, the majority of bone was obtained in the excavation of the domed rock ovens, particularly at Feature 40. The bone material was mixed with packrat debris, charcoal/ash, oven elements, and other artifacts. It was initially thought to be associated with and resulting from packrat gathering activity. While such rodent activity can account for the smaller bone fragments, packrats, working a maximum area of 50 meters in diameter, cannot drag larger bone material back to their dens (Bachhuber 1997, personal communications). The accumulation, therefore, must be the result of human behavior, since no gnaw marks were visibly detected suggesting other animal action as might be expected of a fox or coyote.

Table 5. Number of Bones Representing Wholesale Beef Cuts and Age by Features.

Cut/ Feature	4	6	40	43	46	Totals
Head	0	0	1 Unknown	0	0	1
Neck	0	0	0	0	0	0
Chuck	0	0	0	0	0	0
Rib	5 Juvenile 5 Mature	3 Juvenile 1 Mature 4 Unknown	1 Juvenile 1 Mature 8 Unknown	5 Unknown	1 Mature	34
Foreshank	0	0	2 Juvenile 2 Unknown	0	0	4
Brisket	0	0	0	0	0	
Loin	0	0	10 Unknown	0	0	10
Round	1 Mature	0	1 Juvenile	0	0	2
Rump	0	1 Unknown	0	0	0	1
Hindshank	0	0	2 Juvenile 4 Mature	1 Unknown	0	7
Total # Bones	11	9	32	6	1	59

SURFACE RECORDED ARTIFACTS

A total of 2,921 artifacts were recorded as the result of surface observations from 27 recording units, 100 ft. by 100 ft. in size, and 61 features including 9 trash concentrations (refer to Appendix I and II); tabulated results are presented in Table 6. The purpose of the surface recording was to account for the various types of artifacts without collection, to determine site structure and spatial relationships, and provide a data baseline for comparative use. A small fraction of the artifacts observed and recorded were also collected as the result of excavations and/or surface collection of unique items as presented above. The following material is presented by artifact class.

Beverage. Representing 20.2% (n=593) of the total surface recorded artifacts, various colored bottle bases and closures make up the Beverage Class. Amber (n=400), amethyst (n=6),

clear, and light green were the colors observed, clear and light green being lumped together as a type (n=176). No dark green or black bottle glass was observed at this camp. As presented above, only bottle bases were recorded, being the most intact portion of a bottle, each base representing a single item. Highly disproportionate in the count were bottle closures (n=11) that include crown and threaded caps, wire closures, and a cork. The neck finish on the majority of the bottles was that of ring or oil finish with few crown finishes being observed.

Table 6. Surface Recorded Artifacts by Class.

Class / Quantities	Recording Units (Appendix I)	Features (Appendix II)	Totals	Percentage of Totals
Beverage	271	322	593	20.3%
Clothing	31	75	106	3.6%
Construction	184	244	428	14.6%
Food Prep./Serve	19	8	27	.9%
Food & Ed. Storage	552	1,041	1,593	54.5%
Household/Domestic	47	24	71	2.4%
Personal	21	38	59	2%
Unknown	11	33	44	1.5%
TOTALS	1,136	1,785	2,921	99.8/100%

Data on glass manufacturer's marks on bottle bases was noted during the recording and included embossed maker's marks "AB," "ABGMCO," "R&CO," "SB&GCO," and "WF&S / MIL." At least two amber whiskey flask bases were identified with embossed letters reading "JOHN PAUL." Few in number, the "AB" (A diphthong B) and "ABGMCO" are trade marks of the Adolphus Bush Glass Manufacturing Co. and produced these marks in the years 1904-1928 and 1886-1928 respectively (Toulouse 1971). Also poorly represented is the "SB&GCO" mark representing the Streator Bottle and Glass Co., which operated from 1881 to 1905 (Toulouse 1971).

Of questionable origin according to Toulouse (1971), by far the most common maker represented at the site is that of the “R&CO” mark, decorating both amber and clear/light green bottle bases. The second most common bottle mark, “WF&S / MIL,” was that of William Franzen and Son of Milwaukee, 1900 to 1929 (Toulouse 1971). Some bottles did not have any identifying marks including the amethyst bases. With the two JOHN PAUL exceptions, the bottles contained beer. William Franzen’s bottles might have contained either “Miller” or “Schlitz” while Adolphus bottled “Budweiser,” all popular beers of the time (Figures 16 and 17).



Figure 16. Typical Miller's advertisement, *Harper's Weekly*, May, 1904.

THE LADIES' HOME JOURNAL

Endorses

Beer as Opposed to Patent Medicines.

Of course, a pure, wholesome beer is meant—that is

Budweiser

Mr. Edward Bok, editor of The Ladies' Home Journal, in a page article in the May issue gives a list of 36 medicines, with official analysis, asserting them to contain 12 to 47 per cent. of Alcohol

And he adds in black type:

"In connection with this list, think of beer, which contains only from two to five per cent. of alcohol, while some of these 'bitters' contain ten times as much, making them stronger than whisky, far stronger than sherry or port, with claret and champagne way behind."

Mr. Bok continues:

"A mother who would hold up her hands in holy horror at the thought of her child drinking a glass of beer, which contains from two to five per cent. of alcohol, gives to that child with her own hands a patent medicine that contains from seventeen to forty-four per cent. of alcohol."

Budweiser contains only $3\frac{1}{2}$ per cent. of alcohol. It is better than pure water because of the nourishing qualities of malt and the tonic properties of hops.

Budweiser is pre-eminently a family beverage; its use promotes the cause of true temperance—it guards the safety of health and home. Budweiser is

"King of Bottled Beers"

Bottled only at the home plant of the
Anheuser-Busch Brewing Ass'n, St. Louis, U.S.A.

FOR MAY 1904



Figure 17. Typical advertisement for Budweiser, *Leslie's Weekly*, May, 1904.

Aside from a general scattering of broken bottles across the camp, two isolated concentrations occur. Associated with Feature 3, TC-1 contains 147 bottle bases. To the east of camp is a second, similar occurrence, Feature 52, a tent pad and associated artifact scatter. Sixty-three bottles are located at this detached setting. Within the camp proper, TC-6 and 37, TC-9 has 19, and 20 were located at Feature 37. Clearly, alcoholic beverages were being consumed at Features

3 and 52 and to a lesser extent within the camp itself.

Clothing. Clothing represents 3.6% (n=106) of the total surface recorded artifact assemblage. Glass, pearl, and metal buttons (n=65), leather and metal shoe parts (n=18), metal hooks, adjuster, and clasp items from overall straps or suspenders (n= 14), and pant rivets (n=9) were observed and recorded on the site. As might be expected, clothing related items were most often directly associated with tent pad features where occupants dressed and stored their clothing. For example, Feature 49, contained two glass buttons and five metal pant/overall buttons.

Glass and pearl buttons (n=22) exhibited limited variations measuring 5/8-inches in diameter or less. Glass buttons were white or black, white being most common. A 4-hole pattern of attachment was prevalent with one 2-hole pattern recorded. White and black buttons are either represented by a convex, smooth surface or a flat surface with raised lip outer edge pattern. An exception is a "fancy" black button exhibiting an incised body rim with a central concavity (Figure 13N). All of the pearl buttons are relatively flat in profile and are 4-hole in pattern.

Metal buttons (n=43) and pocket reinforcing rivets (n=9) , most commonly associated with bib/apron overalls, denim work pants, or work-type outer garments, are part of the recorded observations. Often times, the garment's manufacturer name was embossed upon the button. Noted manufacturers include "LEVIS STRAUS & CO / SF CAL," "SHENANDOAH," "UTOPIA / ST. JOSEPH," and "HAMILTON / CARHARTT" (Figure 13). One unique metal button displays a steam locomotive and is lettered with "S.O. & CO. / N.Y." (Figure 13E). It is not known if this item is a shirt, pant/overall, or coat button.

Closely related to work overalls and pants are suspender and overall strap hardware (n=14). Noted items include metal strap adjusters, metal eyes or attachments that hooked onto the metal

buttons discussed above, and metal clasps that protect fabric margins from fraying. A fancy suspender hook and clasp is illustrated in Figure 13H.

Parts of shoes and/or boots (n=18) are evident at the site. This category includes soles and shoe leather fragments, brass lace eyelets and hooks, shoe nails, and metal heel/sole protectors or taps. Aside from the two recorded shoe taps, two metal straps and a corresponding latching hook mechanism were identified as being unexpected in this work setting. Initially thought to be associated with rubber galoshes (unusual items in a desert environment), the adjustable buckle closures are also found on leather work boots of the times (Schroeder 1969:841).

Construction. Accounting for 14.6% (n=428) of the total observed artifact assemblage, construction-related artifacts include such obvious articles as milled lumber, nails of various sizes, blasting powder cans, small keg hoops, wire, and railroad-related objects. Recorded railroad-related artifacts consist of large bolts and nuts (n=10) used in conjunction with iron bars or fish plates to join individual steel rails together, four tie plates used to secure the rails to individual wooden crossties (Figure 14C), spikes (n=12) used to secure the tie plates to the wooden ties (Figure 14B and 14D), and one railroad crosstie. Two different spikes lengths were noted, 4 1/2 and 5 3/4 inches, relatively light weight compared to modern 6 5/8-inch long spikes used with 90-lb. rails. Railroad related construction items are randomly scattered across the site.

Construction fasteners such as nails and screws are present. Wire nails (n=189) ranging in size from 6 inches (60d) to 1 inch (2d) are most often associated with tent pad and hearth features (n=151) with the remainder randomly scattered across the work camp (n=38). Nails found associated with hearths suggest that wooden crates and lumber with nails were burned. Only six wood screws were recorded. Nails and screws normally secured milled lumber of which 91 wooden

fragments of various sizes were recorded scattered across the site in random order. Additionally, items sold in bulk such as railroad spikes and nails were shipped in small wooden kegs held together by metal bands or heavy gauge wire. Although various thicknesses of wire (n=78) in assorted lengths clutter the site, narrow metal bands (n=14) with a 10 inch diameter suggests the presence of these wooden shipping kegs.

Remaining construction related items include blasting powder cans, an oil/tar can, a glass telegraph wire insulator, and hose/pipe (n=3) fragments. No identifying marks are associated with the single bluish-green glass insulator fragment. Eighteen blasting powder cans were noted distributed across the site. The cans were marked with "Santa Cruz CPW," representing a former black powder plant, the California Powder Works, located in the town of Santa Cruz, California. Holding 25 pounds of blasting powder each, cans embossed with this logo were produced between 1874 and 1906 when DuPont acquired the company and replaced CPW with DuPont's trademark (Leavitt 1993). None of the large cans appeared to be modified for secondary use and were probably obtained east of the camp where blasting powder was used to construct a railroad cut in a low limestone barrier. Finally, two small diameter pipe fragments and a railroad car steam hose coupling head were noted during the surface recording effort (Feature 14A).

Food Preparation and Serving. Artifacts in this class represent less than 1% or 27 artifacts of the total surface recorded assemblage. Two fragments representing a single porcelain saucer were identified in the vicinity Features 9 and 48, two tent pads. Both pieces were decorated with a simple design along the outer portions in a gold transfer floral pattern. No maker's mark was identified on the fancy piece of ceramic ware. Vitreous China characterizes 24 individual ceramic artifacts, representing serving plate/platters (n=11), bowls (n=8), and handleless cups (n=5) (see Figure 15B

for an example of a handleless cup). Although trademarks were not found on all pieces, "HOMER LAUGHLIN / HOTEL / CHINA" within a circle was found on some base plate fragments. Producing sturdy restaurant varieties, Homer Laughlin, East Liverpool, Ohio, used this trademark from ca. 1901 to ca. 1915 (Kovel 1986:42).

Almost three times the number of thick hotel china pieces (n=17) were found on the east side of the work camp as was found on the west side (n=6). One plate was identified with the distant, isolated tent pad Feature 52. On the east side, 10 of the 17 Laughlin items occur in recording units 0N/100E, 0N/200E, and 0N/300E, with 6 wares located within 0N/300E where Feature 46 and associated TC-8 are located. The second largest concentration (n=4) comes from TC-3, a large, isolated can dump containing both standard and industrial size cans situated in 200S/300E.

A flour sifter and tin bowl are the last two items in this class. Surface recorded as part of TC-3 and collected as a unique item, the hand cranked sifter is embossed with "ACME / PAT. NOV 4 02" (Figure 15C). A second sifter, being hand constructed from a food can, was noted and collected as a unique item (Figure 15A). It was recorded in the food storage class for its initial, primary use and is discussed here as an example of secondary modification and use. Constructed of pressed tin and covered with a speckled gray enamel coating, an 11-inch wide shallow bowl represents the last item in this class.

Food and Food Storage. Like most historic sites in Western America, the study site is characterized as a diffuse scatter of hundreds of tin cans with a few concentrations. The empty cans themselves represent food products consumed by the occupants of the camp. As such, this class contains both visible food products such as bone and food storage items, primarily tin cans, accounting for 1,593 items (54.5%) of the total assemblage. With the exception of specialty product

cans, all of the surface recorded tin cans are of the hole-in-top variety, with no sanitary seam cans being represented in the assemblage (Rock 1987). During surface recording, an effort was made to determine, as best possible, the product contents of each can. This was resolved by noting the method of opening, can size, basic shape, and trademarks, if present. Based on these criteria, the cans were grouped into fundamental product types that included baking powder, coffee/tea, fish, fruit/vegetable, lard, meat, evaporated milk, and spice tins.

Evidenced only by their friction lids, two 1-pound containers of baking powder were accounted for during surface recording. Both lids are embossed with "SCHILLINGS BEST / 16 OZ." and are associated with Feature 26, a hearth, and TC-6, a trash concentration. A dry powder ingredient used as a leavening agent in baked products, baking powder seems to be under represented considering the suspected amount of baking which occurred at the site. However, other leavening products such as yeast, soda, and salt were available and may not have been necessarily packaged in a can. Baking powder disturbed under the Schilling & Co. trademark, a big producer of spices, is dated from 1882 to 1918 (Hull-Walski and Ayres 1989:178).

Coffee and tea are also poorly represented in the recorded assemblage for a construction camp. Only one positive identification of a coffee can was made. The can was of a 2-pound variety and included its key-opened, external friction or slip lid that allowed the user to reseal the can after obtaining the required amount of ingredient. It was found in association with TC-3, the largest of the can concentrations.

Fish or sardine cans account for 184 recorded entries, third in quantity throughout the site. Easily recognized by its flat rectangular shape, the contents were accessed by removing the lid by a key-opener. In some cases the key had been lost and the cans were opened by cutting along the

can's edges with a knife. Apparently a popular food product with camp residents, the cans are liberally found at the site, but higher concentrations occur in the central portion of camp within recording units 200N/100W (n=21), 200N/0W (n=20), 200N/100E (n=22), and 100N/0W (n=24). Thirty fish/sardine cans, however, were recorded in direct association with Feature 36, a tent pad.

Second only to evaporated milk in count, fruit/vegetable cans are represented by a count of 577 artifacts. No. 2, 2½, 3, and 10 size cans are present diffusely scattered across the site and in concentrations. While the smaller size fruit/vegetable cans dominate the site, the larger industrial No. 10 size are present to a lesser degree. As with sardine cans, fruit/vegetable cans most often occur in the central portion of the camp in recording units 300N/100E (n=25), 200N/0W (n=24), 200N/100E (n=28), and along the dry wash in 200N/200E (n=21), with one exception. The exception is TC-3, a large isolated can concentration located in a dry wash southeast of the work camp. This feature alone contains a total of 603 cans. Of this number, 336 are fruit/vegetable cans and include 58 No. 10 or the industrial size cans, the remainder being the standard size variety.

One observed can was embossed with "PIETRO RONCORONI / NEW YORK." A check with the New York State Division of Corporations failed to reveal any information about the company or the possible contents of the can (NYDC 1997, personal communications). However, the city directory for Manhattan and Bronx list Pietro as operating a business at 76 Vessey; he was a "Pickle, &c." packer (NYCD 1903:1083 and 1904:1245). In a 1904 cross-reference, Pietro (Peter) is listed as living at 82 Vessey along with Silas J. Roncoroni, listed as a clerk (NYCD 1904). A probable relative, Antonio, is listed as providing preserves from a business location of 148 Spring (NYCD 1904).

Used to improve the flavor of cooked food products, seven spice cans were noted. These

type of cans are easily identified by their small, elongated rectangular shape or by a perforated friction lid. No concentrations were recorded, but are found randomly within the camp.

By far, the largest count of a single can product belongs to evaporated milk (n=697). Based on a total surface recording of 1,548 food storage cans, evaporated milk represents 45% of the canned food products consumed at this site. Included in the recorded observations are Type 4 (ca. 1903-1908) and Type 6 (ca. 1903-1914) milk cans and to a lesser degree of representation, the short Type 5 (ca. 1903-1914) milk cans (Simonis n.d.). Contents of the cans were obtained by opposing double punctures or most often with a single or double slash in the can top made from a cleaver or broad knife. Spatially, the largest concentrations occur at TC-3 (n=362), TC-2 (n=35), and recording units 200N/100W (n=23), 100N/0W (n=28), and 100N/300E (n=27). Lesser counts are spread randomly across the site. Two short Type 5 cans were noted to be embossed with a "BISHOP" trademark. These cans are thought to have contained chocolate syrup, possibly produced by Bishop & Company, San Diego, California, in operation from 1890 to 1920 (Stoll 1997, personal communications; Toulouse 1972).

Canned meats (n=61) were less favored in a ratio of 1 to 3 than fish/sardine products. Packaged in tapered rectangular and short round flat cans, meat cans were easily identified. Spatially, counts greater than five cans occur on the west side of the camp in recording units, 200N/0W (n=6) and 200N/100W (n=11), in the vicinity of Feature 3 in recording unit 0N/0W (n=6), and at Feature 36 (n=7), a tent pad. No meat tins were recorded in the large can dump TC-3.

Perhaps the lack of canned meat products was offset by the availability of fresh meat as evidenced by the numerous large mammal bones surface recorded and collected as a result of excavations. Forty-five meat bones were recorded on the surface of the site, both charred and

uncharred by fire. No effort was made by the recorders to determine the cut or animal species. Counts equal to or greater than five occur in recording unit 200N/100E (n=5) and are directly associated with Features 21 (n=12), 36 (n=7), both tent pads, and 40 (n=10), a rock domed oven. Bone material was collected from all oven features as a result of excavations, but Feature 40 contained 129 pieces of the 197 animal bones recovered.

Finally in the class of Food and Food Storage we have lard containers, usually in the shape of a pail with a resealable friction lid. A camp staple, lard is used both in baking and frying of food products and perhaps even as a lubricant. Eighteen lard containers were noted and were registered in accumulations at TC-3 (n=4) and randomly distributed upon the site thereafter. One noted pail lid was embossed with "COTTOLONI / WHITE / PURE/ WHOLESOME." Similar lard bucket lids have been identified with dam construction camps in central Arizona and read "COTOLENE / CONTAINS NO / HOG FAT / USE 1/3 LESS" (Hull-Walski and Ayres 1989:179).

Household and Domestic. The 71 items (2.4%) in this class represent any article that might have been used in association with the establishment, operation, and maintenance of domestic or household activities, minus food preparation and serving discussed above. A range of items fall into this class and include tent and stove parts, water barrel hoops, furniture hardware, kerosene cans, and even a fancy pressed glass fragment and a clock spring.

Water was required to quench the thirst of the occupants in this desert camp. Twenty-six water barrel hoops representing a minimum of 13 wood barrels were accounted for within the camp. Water related items such as a crushed galvanized bucket and the fragments of at least two enameled wash basins were recorded. The material seems to be randomly cast upon the camp landscape without apparent concentrations. Recording units 200N/100E (n=3) and 200N/200E (n=4) have the

greatest number registered.

Kerosene was needed at night to provide light for the camp residents. One-gallon and fragments of 5-gallon cans, representing at least nine containers, were counted. Rectangular or square, some cans had pour spouts while some had threaded cap closures. Because of their size, the 5-gallon cans were most often cut and flattened for use in some unknown function. Associated with the production of night light are 16 pieces of a single, fragile lamp chimney identified in a dry wash between Features 45 and 46. Except for two cans of kerosene located in TC-3, the containers appear evenly distributed across the site.

Ash/charcoal stains located within tent pad features suggests the present of stoves. A total of five stove pipes or fragments thereof provide proof of the presence of wood/coal burning stoves. One complete specimen had a 6 inch diameter and measured 24 inches in length. Feature 43, a domed rock oven, had a complete section laying at its base and may have been incorporated into its construction as a chimney.

Canvas tents provided accommodations for railroad construction crews. Cheap in cost, these temporary accommodations were suited for the purpose by being easily erected, taken down, and transported to the next location along the grade. A pole spike (Figure 15E) and brass grommets (n=4) support the presence of canvas tent/tarps at the camp. While the pole spike and one grommet were not located in association with any tent pads, one grommet was located with tent pad Feature 19 and one each were associated with hearth Features 20 and 31.

Four household/domestic hardware items were observed during surface recording. A medium size, elongated door hinge is associated with Feature 3, while a smaller hinge similar to ones used in hinging the top of a small wooden box was observed in recording unit 200N/200W. Made

from cast iron, a handle was located adjacent to hearth Feature 7 and a small, metal plate with a keyhole in its center was identified in unit 200N/100E.

The remaining artifacts in this class include a pressed glass fragment and a clock spring. A thin, 1/4 inch wide, partially spiraled clock spring was discovered in 100N/300E. Only one clear fragment from a pressed glass container was registered in recording unit 300N/100W along the northern periphery of the camp. The curved piece, slightly amethyst in color, consisted of a smooth panel along the base or the widest portion and was divided into three vertical panels, one completed and two partials. Within the complete panel were five raised diamond shapes, the panels and smooth base being separated by lines of raised glass.

Personal. Personal artifacts comprise only 2% or 59 artifacts of the total observed surface assemblage for the study site. Included in the class are such items as medical and health products, indulgence items (tobacco), handgun and shotgun casings, and evidence of writing, music playing, and keeping time. One part of a harmonica was identified in association with tent pad Feature 27, as mentioned above. Representing a portion of the cover plate, either top or bottom, it is embossed with the letters "SILVER / REEDS" positioned inside a raised-line diamond pattern. To the outside of the diamond pattern is an engraved "G" and a partial word ending in raised letter "ER," probably HONER.

Four tobacco tins and a fragment of a clay pipe bowl are represented. The four tobacco tins are thin square boxes with hinged lids and slightly curved to conform to the body when stuffed into a hip pocket. Such artifacts are similar to Old English Pipe Tobacco tins as advertised in *Harper's Weekly*, 1904, for those "who smoke pipes 'Out of Doors'" (Figure 18). Two of the tins were identified in direct association with tent pad Features 27 and 36. Affiliated with the tobacco tin at

Feature 27 was a clay pipe bowl fragment illustrated in Figure 13F.



Figure 18. "Old English" can similar to cans identified at site, *Harper's Weekly*, May, 1904.

By far the largest single category within the Personal Class is that of Weapon Casings comprised of 46 gun cartridges. Included in the observed assemblage representing various caliber

weapons are the following trademarks: "PETERS / 38 S.&W.;" "U.M.C. / 32 SCF;" "U.M.C. / 38 S.&W.;" "U.M.C. / 41 LC;" "U.M.C. / COLT 45;" "WRA CO. / 38 S.&W." for handguns; "U.M.C. / 44.40" for a rifle; and "1901 / NO. 12 / NEW RIVAL;" "PETERS / NO. 12 / NEW VICTORY;" "RCC / NO. 12 / LEAGUE;" and W.C.CO. / NO. 12 / ESSEX" for shotguns. PETERS' is a trademark for the Peters Cartridge Co., 1902 to 1934, U.M.C. represents Union Metallic Cartridge Co., 1900 to 1911, RCC may denote Remington Cartridge Co., no dates, W.C.Co., WRA Co., and 1901 for Winchester, 1887 to 1940 (Hull-Walski and Ayres 1989). Cartridge concentrations of four or greater occur at tent pad Features 36 (n=6), 45 (n=5), and 46 (n= 4), and recording unit 100N/300E (n=13). Nearly half of the cartridges (n=22), all .38 caliber for a Smith and Wesson revolver, are found in the above recording unit which includes Feature 45 and a portion of Feature 46. A single Colt .45 cartridge was found in the vicinity of Feature 3. All of the identified cartridges fit the site chronology and are not a result of later site contamination by target shooters.

Camp occupants seem to have been rather healthy resulting in only four medical/health related items being recognized by site recorders. Two pieces of cobalt blue glass, representing a single vapor or menthol decongestant rub were identified with oven Feature 12. The remaining three articles characterize the remains of talcum powder cans found in association with Feature 36, a tent pad, and a hearth, Feature 38, adjacent to the referenced tent pad. Although two glass stoppers commonly used with medical or chemical containers were observed, the corresponding bottles could not be located and were thus lumped under bottle closures.

Two watch parts and the metal eraser holder from a wooden pencil are the remaining items characterized as being personal. The tin eraser holder was noted with hearth Feature 31. Two similar metal bands and two pin quills were recovered during excavations from the adjacent tent pad,

Feature 32, suggesting a close association between the two features. Two small, brass watch gears were observed at two separate locations, Feature 21, a tent pad, and at a trash concentration, TC-4, at the east end of camp.

Unknown. Forty-four artifacts, 1.5% of the total recorded assemblage, represent the class Unknown. Categorized on material composition, the Unknown class includes items for which their intended function cannot be readily determined. Thirty-four items are thought to be caps composed of zinc and measure 1/2-inch in diameter by 3/8-inch high with straight sides that flair out slightly at the base. These caps are concentrated at Features 3 (n=12), 45 (n=4), TC-4 (n=10), and recording unit 0N/0W (n=8). The remaining 10 articles are scrap metal and are distributed randomly across the site.

SPATIAL PATTERNING

Spatial patterning can provide clues on the organization and use of space at a particular place and time. Based on spatial patterning of features and trash concentrations of the site, some functional relationship are evident. Aside from the following analysis, the meaning of the relationships will be offered in the interpretative section below.

The most obvious functional areas consist of a main residential camp, an immediate saloon tent, and a peripheral saloon establishment. Detached and isolated to the east, Feature 52 and its associated trash scatter of beer bottles and to a lesser degree, food cans, is most likely a "hell on wheels" or "whiskey ranch" entrepreneurial encampment (Klein 1987). Likewise detached, but of an immediate nature, Feature 3 is also an entrepreneurial bivouac where alcoholic beverages were sold and is demonstrated by the adjacent refuse deposit of broken beer bottles, TC-1. Referred to

by the archaeological field crew as Coyote's Bar and Grill, it is doubtful that meals were served at this location since no large food can accumulations were identified. TC-2, a small refuse of cans some 75 ft. north of the tent pad, however, has a likely relationship with Feature 3.

Within the main residential camp on the north side of the tracks, spatial subtleties exist. All of the tent pads are positioned in a random order rather than a regimented arrangement and to a greater or lesser degree, aligned with the long axis of the pad in a northeast/southwest direction, perpendicular to the railroad grade. Clearly disconnected from the rest of the camp by a major truncated dry wash is a small cluster of three tents pads and assorted features. This eastern cluster is composed of Features 41 to 46 and TC-8: 3 tent pads, 2 hearths, a domed rock oven, and trash concentration. Although of some distance from this cluster, TC-3 is thought to have initially derived in this area but was removed for health considerations or railroad policy. On the west side of the main work camp is a loose arrangement of 2 tent pads (Features 49 and 50), 2 domed rock ovens (Features 4 and 6), 3 trash concentrations (TC-4, 5, and 9), and 2 hearths (Features 5 and 7). This grouping is separated from the central cluster by a relatively short distance between the nearest neighboring tent pads, Feature 50 and 9, and a shallow drainage channel. More tents may have existed in this western area but were not detected. The central cluster, a much tighter grouping, consists of the remaining 9 tent pads, 24 hearths, 2 domed rock ovens, and 3 trash concentrations.

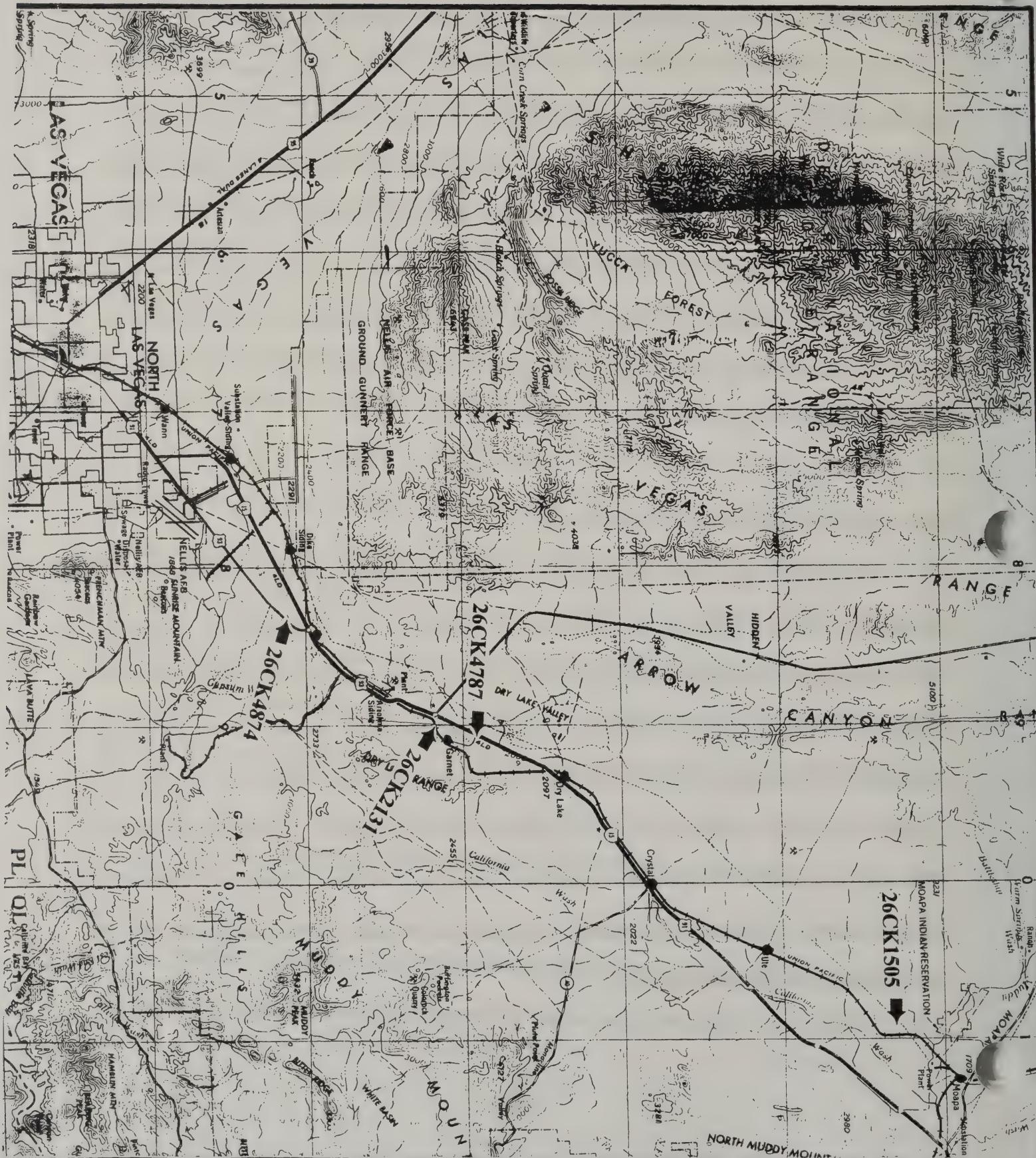
COMPARISON WITH OTHER REGIONAL SITES

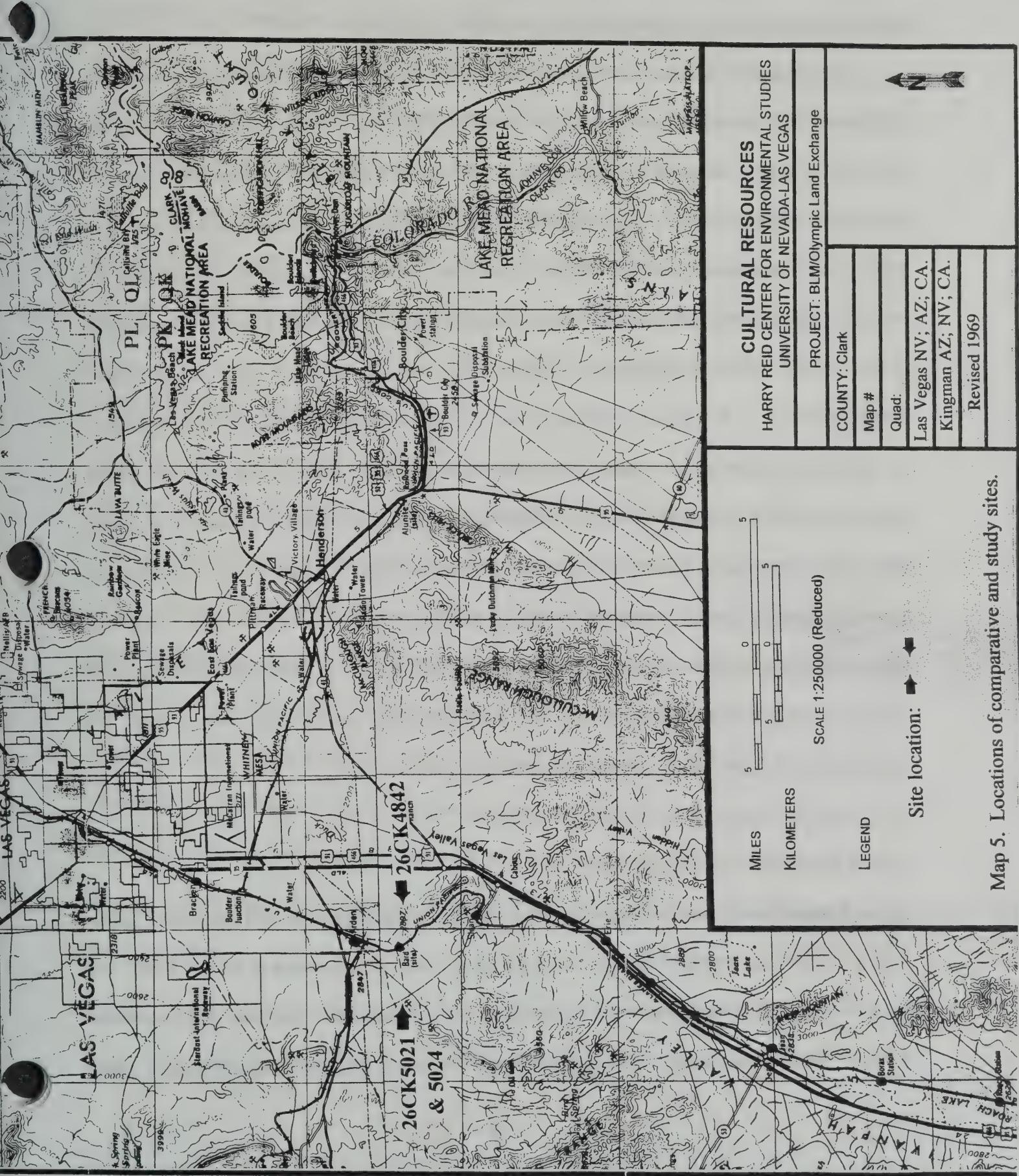
Basic data is provided below for five southern Nevada railroad camps for purposes of comparison with the study site. All comparative campsites are synchronic in time, 1903 to 1905,

represent single, temporary use sites, and are associated with the construction of the SP, LA&SL railroad. Some camps have been recorded in greater detail than others and an effort has been made in the present study, where possible, to assess similar bits of data, recognizing differences in recording methodology, classification of artifactual material, and presentation of the results. All of the topic sites have been analyzed within the last ten years and are briefly discussed in order of linear location along the railroad route from northeast to southwest (Map 5). Sites outside of the southern Nevada region, particularly southeastern Nevada between Caliente and Moapa and in California between the stateline and southwestward to Barstow/Daggett are not included here because of a lack of or poor site recordings (Cunkelman 1997, personal communication; Ferris 1997, personal communication).

NO NAME RAILROAD CAMP (26CK1505)

Identified repeatedly in at least three different utility right-of-way inventories, this camp was mitigated as a result of a gas pipeline installation (York *et al.* 1992). Associated with a linear cut into a rock outcrop obstruction to accommodate the railroad grade, nine features were identified and subjected to excavation. Features included 5 tent pads defined by "C-shaped" rock alignments, a short linear rock alignment, a small flat area, a possible blacksmith forge location, a rock cairn, and a wagon road track. A general scattering of artifacts covered the surface. A total of 730 artifacts were recovered from both excavation and surface collections. Because of the presence of animal harness hardware, it is thought that livestock were present at the camp. Domed rock ovens were not identified in association with this camp.





Map 5. Locations of comparative and study sites.

GARNET SHOO-FLY CONSTRUCTION CAMP (26CK4787)

Garnet shoo-fly construction camp was intensively surface recorded in reference to a material pit (Moore 1995). Associated with the construction of a SP, LA&SL shoo-fly (26CK4786), the camp consists of at least 19 tent pads, 17 partial dugouts, 28 hearths, 1 privy pit, 6 domed rock ovens, 15 trash concentrations, a shoo-fly railroad grade, a truncated siding grade, a concrete lined cistern, a wagon road, a corral area, and a blacksmith forge area. Spatially, the site was divided into 10 functional areas based on relatively distinct clustering of artifacts and features: 5 residential complexes with various arrangements of tent pads, dugouts, and hearths; a corral and associated blacksmith area; a work complex straddling the railroad and siding grades; and 2 saloon complexes. Six domed rock ovens are associated with three residential areas farthest away from the central portion of the camp. A camp kitchen and possible associated storage dugout is located in the central portion of the overall site. Two saloon clusters or whiskey ranches are located next to each other but physically separated from the construction camp across on the "other side of the tracks." Although many trash concentrations are located within the camp and adjacent to residential, commercial, or work features, four large can dumps are clustered outside the camp along a wagon road. No measurements are provided for the tents, dugouts, or ovens.

ROCK IGLOO CAMP (26CK2131)

Located within short walking distance of the existing railroad grade near the former Garnet Siding (not the site discussed above), the Rock Igloo Camp was recorded as part of a land sale (Leavitt 1993). This small temporary construction camp consists of 5 tent pads, 3 "igloo-shaped features" (domed rock ovens), 2 "piles of spent coke," a result of blacksmithing activities, 2 roads,

2 dugouts and a cleared circular depression, 5 hearths, 2 wooden posts thought to represent a picket-line for draft animals, and a general scattering of artifacts. All five tent pads measure approximately 12 by 15 ft. in size. One dugout measures 7 by 8 ft. while a second measures 17 by 18 ft. and are thought to have been used for storage. Inside diameters for the domed rock ovens are 4 ft., 4 ft. 7 inches, and 5 ft. with no other details provided. Although alcoholic bottles are represented, none appear to be associated with a separate vendor's area. Spatially, the ovens are located separately on a limestone hillside away from the clustered tent pads situated at the base of the escarpment.

VENDORVILLE (26CK4874)

Located at the junction of numerous wagon roads including a section of the Old Spanish Trail and Mormon Road (26CK3848) at the northeastern side of the Las Vegas Valley, Vendorville was an entrepreneurial camp, whiskey ranch, occupied during the construction of the SP, LA&SL (Myhrer 1992). The site consists of 4 tent pads, 2 privy pits, a rock and gravel mound thought to represent a loading platform, a corral area, 2 concentrations of slag (blacksmith area), remains of a pipeline, and a ubiquitous trash scatter. Surface artifacts were recorded and include approximately 175 alcoholic bottles, 150 bottle closures, 272 hole-in-top cans, 75 personal and kitchen articles, and 240 construction related items. While not situated immediately adjacent to the railroad alignment, it is thought that the camp provided a blacksmithing service for teamsters and their teams, a point for the loading and unloading of supplies including piped in water, and the sale of liquid refreshments, particularly beer.

WATER PIPELINE CONSTRUCTION CAMPS (26CK5021 & 26CK5024)

In an effort to provide an adequate supply of water for domestic purposes and the operation of steam engines on the SP, LA&SL line, a water delivery pipeline was constructed from Blue Diamond, the source, to Sloan with arterials to Bard and Arden sidings. Three campsites were identified in relation to the construction of the main and arterial water pipelines (Myhrer and Hatzenbuehler 1994). Mainline Camp One (26CK5021) is composed of seven tent pads, a large can dump, a domestic stock locus, a pipeline alignment, and maintenance road; surface recorded artifacts at the camp totaled 3,135 artifacts. Mainline Camp Two (also recorded under 26CK5021) is located 700 ft. northwest of Camp One; the location is considered to be a subcamp of Camp One and contains four tent pads, a road, pipeline alignment, and 220 recorded artifacts. A third camp, Bard Artery Camp (26CK5024), includes 11 tent pads, a maintenance road, an informal refuse dump area, and pipeline alignment. Surface recording accounted for 831 artifacts at the Bard Artery Camp. The largest of the collective tent pads measured 20 by 25 ft. and the smallest, 10 by 10 ft. Although beer bottles are represented at both camps, it is thought that no particular tent location within the camps provided a saloon service, but was rather obtained at other nearby locations closer to the railroad, some distance away from the camps. No domed rock ovens were identified at any of the water pipeline construction camps.

COMPARISON WITH STUDY SITE

Features. In tabular form, Table 7 provides sixteen feature types and/or functional areas listed for six railroad related sites in comparison to the study site. Many similarities and differences are apparent. Although diffuse trash scatters are affiliated with all sites (general "background noise")

for any historic site), efforts were made at the larger camps to concentrate refuse in either formal or informal locations within the camp itself or in adjacent areas. These concentrated "can dumps" may have been the result of a company policy for health considerations. Smaller concentrations often occur between tent pad clusters within the camp boundaries as depicted at the study site.

Table 7. Feature Comparison for Discussed Railroad-Related Sites.

Feature / Site #	26CK1505	26CK4787	26CK2131	26CK4874	26CK5021	26CK5024	Study Site
Blacksmith Area	X	X	X	X			
Cistern		X					
Dugout/s		X (17)	X (2)				
Hearth/s		X (28)	X (5)				X (28)
Livestock Area	X	X	X	X	X		
Oven, Rock		X (6)	X (3)				X (5)
Pipeline				X	X	X	
Platform, Earth				X			
Privy Pit/s		X		X(2)			
Railroad Grade	X	X	X				X
Road/s	X	X	X	X	X	X	X
Saloon Area		X (2)		X			X (2)
Siding Grade		X					X
Tent Pad/s	X (5)	X (19)	X (5)	X (4)	X (11)	X (11)	X (16)
Trash Dump/s		X (15)			X	X	X (9)
Trash Scatter	X	X	X	X	X	X	X

Another common feature recorded at all of the sites are tent pads. Tent pads were used for residential, storage, cooking/eating, and entrepreneurial activities. Measured tent pads at the Pipeline Construction Camps, 26CK5021 and 5024, are comparable in a range of sizes to those found at the study site.

Less common are dugouts, identified at only two sites and none at the study site. At least one dugout at 26CK4787 and the two dugouts at 26CK2131 are thought to have been used for storage. The use of dugouts for habitation may indicate a railroad camp occupied for a longer period of time since labor investment in their construction is more intense than pitching a tent on the landscape surface. Dugouts may have also offered an extra margin of comfort from extreme environmental conditions.

In order to access the railroad sites overland, wagon roads were established. In some cases, the wagon roads were later used as maintenance roads. All the sites have at least one road and in some cases, multiple roads.

Only two camps, 26CK4787 and the study site, are directly associated with sidings and they represent the largest of the comparative sites. Both camps are attached to the construction of shoo-flies, the Garnet camp with the five-mile long Garnet Shoo-fly (26CK4786) and the study site with the 12-mile long Arden-Erie Shoo-fly (26CK3542). Much larger in size, the Garnet Shoo-fly camp contains a blacksmith and corral area for livestock and a concrete lined cistern for water storage which are not present at the study site. Since horse/mules were used in the construction of the grade and blacksmiths were used to maintain equipment and to shoe the livestock, it would be expected that such features would have been located at the study site. Evidence for such activities, however, were not identified in the present or previous inventory studies. Also not identified at the study site are privy pits. It is thought that this type of feature at the study site may have been located in any number of dry wash drainage channels and have since been covered over by erosional forces.

Domed rock ovens are present at 26CK4787, 26CK2131, and the study site. Six ovens have been recorded at 3 distinct residential clusters at the Garnet Shoo-fly camp, 3 affiliated with 5 tent

pads at 26CK2131, and 5 distributed among 3 loosely defined clustered tent pad areas at the study site. Measurements taken at the Rock Igloo site (26CK2131) suggest that the three ovens are comparable in size (48, 55, and 60 inches) to the largest ovens identified at the study site (52 and 55 inches). Unfortunately, construction details are not known for the Rock Igloo or Garnet Shoo-fly camps.

Alcoholic beverages were consumed at all camp locations. The two largest camps each had two whiskey ranches where alcohol was sold. Vendorville was itself a entrepreneurial operation for the sale and consumption of alcoholic products and other services. Even though the other camps did not have direct sales through an on-site vender, alcohol was probably available from some nearby source.

Including the study site, three camps contain hearths, Garnet Shoo-fly and the Rock Igloo sites. Evidence at the study site suggests that hearth areas may have served camp occupants as a place to prepare meals. The hearths also probably served as social focal points around which to gather with companions after a hard day of work. Additionally, hearths may also indicate camp occupation during the colder months of a year.

Surface Recorded Artifacts. Table 8 provides comparative artifact data gleaned from the records from four of the above topic sites and the study site. Artifact data from the remaining topic sites was not available or lacked comparable data. During the task, it was found that proverbial apples were not always apples, but sometimes oranges. All of the Table 8 sites except for 26CK4787 were systematically inventoried; the figures for that site do not necessarily represent a true reflection of the total assemblage. Additionally, recording methodology varied from site to site. For example, even though no saloon tents were identified in association with 26CK5021, Mainline Camp One and

Two, the total count/percentage for the Beverage Class is extremely high compared to the two sites known to have alcohol entrepreneurs, Garnet Shoo-fly camp and the study site. In the case of 26CK5021 and 5024, however, the total number of glass bottle shards were counted instead of just the bases. Despite several glitches in the data, an effort was made to "adjust" artifact class and types to correspond to those presented for this study. For example, Myhrer and Hatzenbuehler (1994) classified wood scraps under Household items and were here adjusted to be included in the class of Construction materials. Adjusting of proverbial apples and oranges has, however, been minimized as much as possible, and any other researcher looking at the same data would no doubt form different conclusions. Notwithstanding, some generalized comparisons can be made.

Table 8. Comparison of Recorded Artifacts from Selected Sites.

Class / Site #	26CK4787	26CK4874	26CK5021	26CK5024	Study Site
Beverage	337 / 19%	325 / 36%	1,106 / 33%	114 / 14%	593 / 20%
Construction	161 / 9%	240 / 26%	712 / 21%	260 / 31%	428 / 15%
Food Prep/Serve	0 / 0%	52 / 6%	7 / <1%	58 / 7%	27 / <1%
Food & Ed. Storage	1,230 / 69%	272 / 30%	1,387 / 41%	361 / 43%	1,593 / 55%
Household/Domestic	9 / <1%	12 / 1%	90 / 3%	27 / 3%	71 / 2%
Personal/Clothing	5 / <1%	11 / 1%	19 / <1%	6 / <1%	165 / 6%
Unknown/Other	40 / 2%	0 / 0%	34 / 1%	4 / <1%	44 / 2%
TOTALS	1,782 / 100%	912 / 100%	3,355 / 100%	830 / 100%	2,921 / 100%

A can is a can. As might be expected, food and food storage containers, cans, collectively constitute more or less than half of the surface recorded artifacts. Similar types of cans representing various food products were recorded at all camps. Relatively few fish/sardine and potted meat cans were recorded at any of the sites in comparison to the study site. Evaporated milk cans are second only to fruit/vegetable types with the remaining varieties being represented in lesser percentages.

Large mammal bone was observed and recorded at the Garnet Shoo-fly camp, 26CK4787, similar to the study site. Bone material was not mentioned for the other sites.

Bottle glass, the end product of alcohol consumption, was similarly recorded at all sites. The Beverage Class represents the second largest category of artifacts except at Vendorville as might be expected for a specialized entrepreneurial camp catering to thirsty railroad workers. Maker's marks for bottle manufacturers as noted above for this study are common to all the topic sites, particularly "R&CO." JOHN PAUL whiskey was noted at 26CK4787 and 4874 in addition to the study site. When it comes to bottle closures, however, roughly equal numbers of closures to bottles are found at 26CK4787, 4874, and 5021 compared to the study site and 26CK5024 where very few are noted.

The third largest class of artifacts is denoted by construction related items, except for the Bard Artery Camp (26CK5024) where it is the second largest class. The study site differs little in the type of materials observed at the other sites. Included are nail and screw fasteners, wood scrap or milled lumber, wire, blasting powder cans, and assorted railroad assembly parts.

Smaller percentages than found with the classes offered above include Food Preparation/Serving, Household/Domestic, and Personal/Clothing. Personal and clothing items are usually small and difficult to see. Unlike the other sites, this class of artifacts comprises 6% of the total recorded study site assemblage compared to 1% or less for the other topic sites. For the class of Food Prep./Serving, the large percentage noted for Vendorville and the Bard Artery Camp is a partial reflection of the number of ceramic fragments counted rather than individual items the sherds might represent. Given this, Food Prep./Serving will probably equal or be less than 1% for any given site assemblage. The study site is commensurate with percentages when compared to the topic sites for the Household/ Domestic Class, roughly occurring in the middle of a range from slightly less than

1% to 3%.

INTERPRETATIONS: RESEARCH QUESTIONS ADDRESSED

What does it all mean? Provided above is the archival and archaeological data gathered during the course of field work for this study. Research issues and related questions pertaining to data recovery at 26CK4842 have been previously outlined in the treatment plan for the site (Blair and White 1996) and are generally reiterated below. Primary archaeological problem domains focus on ethnicity, subsistence, technology, and spatial relationships within a thematic context of railroad transportation systems (refer to Adkins 1991; Myhrer 1993).

ARCHIVAL RESEARCH

Local newspapers such as the *Lincoln County Record* and the *Searchlight* provide interesting tidbits and teasers that only generally contribute to our knowledge and understanding of the construction of SP,LA&SL railroad and its associated features. Historical documents from the SP,LA&SL collection, UNLV, Special Collections, revealed new information concerning supplies purchased from the "Los Vegas Ranch," construction camp locations, and various categories of railroad personnel. Contracted by HRC, the Union Pacific Museum Services was, unfortunately, not able to locate any archival material specifically related to the study site in their vast collection. All in all, some of the archival questions can be addressed.

Question (Q): *When was the camp occupied and for how long?*

Answer (A): Based on the material presented in the historic context we know that grading

crews had reached the Las Vegas Ranch by May and rails had been laid to that location by October, 1904. Continuing south, subcontractors such as the Dunley Brothers, under contract with the Utah Construction Company, completed the grade to Borax where they met up with the north bound gangs the last month of 1904. Following the graders came the tracklaying gang who laid rails on the Arden to Erie shoo-fly beginning in the middle of November and completed their task by January, 1905. Because of the presence of ash and charcoal found within the tent pads, it is here suggested that the subject work camp was occupied during the winter months of 1904/1905. Although it can not be determined exactly when the camp was initially established, the camp may have been used up until a short time after the abandonment of the shoo-fly in May, 1905.

Q: What was the camp's function, and what was the siding's name/designation?

A: Clearly, the camp was a residential base for construction personnel. Because of a lack of evidence for horse culture and blacksmithing activities at this siding site, it is suggested that this site was occupied by a work gang specializing in an activity not associated with grading, the graders having passed through the area prior to the winter months of 1904/1905. Plausibly, the siding and work camp was used by the tracklaying gang from which they were transported to the construction front each day by train.

As stated above, sidings were established approximately 5 mile intervals. Based on past and present railroad mileage provided for the sidings, this generally holds true with some variances. In 1905, the *Los Angeles Daily Times* (1/31/1905:12) provides the names of the sidings and distances from Daggett. Sloan and Bard are listed between Erie and Arden, but at the time of the article, these sidings did not exist in their current locations. Sloan and Bard were later established as a result of the completion of the permanent main line in May, 1905. Conceivably, SP, LA&SL officials were

providing the reporter with information based on the completed line. Another possibility is that Sloan and Bard names were given to sidings on the Arden to Erie shoo-fly and later transferred to their present locations. It is interesting to note that the mileage from Caliente to the current Bard siding, 136.8, as well as the distance from the Arden siding, is similar to the subject work camp and siding. Perhaps, archaeological site 26CK4842 is the original Bard location with the name transferred to the present location upon abandonment of the shoo-fly. It is also interesting to speculate that this may have been Camp 2 at mile 135 occupied by the bridge gang with A.L. Jones in charge. This seems unlikely, however, since Jones was probably focusing on solving problems associated with the permanent line high above and to the south of the subject site during the winter months of 1904/1905.

Q: What was the name of the construction company hired to prepare the grade and lay track south of Las Vegas, and what was the ethnic composition of the construction crews?

A: Utah Construction Company was awarded the contract to prepare the grade 85 miles below Moapa, including the Las Vegas area, around March, 1904. Subcontractors to UCC such as the Dunley Brothers actually constructed the grade south of Las Vegas. Empire Construction, a subsidiary of the SP,LA&SL, laid the steel rails with its own crews. According to newspaper accounts, construction crews were ethnically diverse, being composed of Greeks, Syrians, Italians, Austrians, Irish, Spaniards, and Fins. Some Asians participated as cooks. Mexicans were hired to construct the railroad north from Daggett.

Q: What were the "company rules" concerning personal conduct within construction camps, and what was the corporate structure of the contracted construction crews and their relationship to the SP,LA&SL corporate structure?

A: No definitive archival data was found to address these questions and remain a topic of further research. Despite this, it can generally be stated that the corporate structure was one that grading subcontractors were responsible to UCC who was responsible to the Empire Construction Company who was ultimately responsible to the SP,LA&SL Board of Directors. The Empire Construction Company itself consisted of numerous work gangs, each gang responsible for a particular construction task. Subcontracted grading crews may have been organized and paid under the category of Section Gangs. Although it has been suggested that the consumption of alcoholic beverages was not allowed or restricted as a company policy (Paher 1971), this "rule" appears to have minimally enforced, if at all.

ETHNICITY

Historical archaeology has contributed to the study of ethnicity by addressing issues related to ethnic assimilation, ethnic relationships and interactions, ethnic boundary maintenance and change, the material correlates of ethnicity (McGuire 1982). Within the discipline, it has been proposed that ethnic stratification and boundary maintenance is the result of competition, ethnocentrism and differential power (McGuire 1982, Noel 1968). As presented above, archival accounts state that men from various ethnic groups were employed on the SP,LA&SL work crews and included a rich mix of nationalities such as Greek, Irish, Syrian, Italian, Mexican, Austrian, and even Japanese (*LCR* 9/18/1903:1:1, Myrick 1963, Signor 1988).

Q: Is there archaeological evidence to support a large or diverse ethnic presence at this railroad construction camp?

Domed rock ovens provide the most obvious indicator that men of a common ethnic

inheritance or regional influence were present at this railroad camp. Although domed rock oven have been attributed to several ethnic groups, Wegars (1991) methodically argues that these unique structures "were made and used primarily by people of Italian, and to a lesser extent Greek, heritage." Found in connection with railroad construction camps throughout the west, similar structures have been documented at Italian habitation sites associated with Carbonari, charcoal makers, in the central section of Nevada (Reno 1994). Men from the Mediterranean region of Europe are known to have worked on the railroad south from Caliente according to newspaper accounts.

To a far lesser degree, material correlates in the form of certain product types may have been preferred over other products, when and where available. Preference may have been based on ethnic "sounding" or spelt trademark names. For example, a lard bucket lid embossed with the name COTTOLONI and a fruit/vegetable (pickles?) can revealing the trademark of PIETRO RONCORONI were noted during surface recording. Additionally, fish/sardine products in their distinctive shaped cans may have been preferred by some ethnic people from coastal areas (Marks 1997, personal communications). Desired not only for their fish/sardine contents, a readily available source of protein, but also for the oil. A total of 184 fish/sardine cans were recorded at the site, far more than at any noted at the other comparable sites.

Aside from the domed rock ovens that imply ethnic origins and generalized newspaper accounts pronouncing ethnic diversity, ethnicity of a particular group in favor of another cannot be clearly defined at this work camp. It can be argued that oven making could conceivably be an acquired or borrowed behavior born out of necessity in a remote construction setting to provide a desired commodity, daily bread. Certainly, railroad construction crews were ethnically diverse,

adaptive, and well traveled. What is needed to definitively address this question for this work camp or any other camp with domed rock ovens is archival evidence (i.e. employee ledgers, pay slips, etc.) connecting it with the archaeological evidence.

SUBSISTENCE

Reconstruction of human subsistence patterns has been a major research domain for archaeology in general. In historical archaeology, the study of foodways has contributed to the understanding of human behavior, ethnic diversity and assimilation, socioeconomic status, and in some cases, impacts on the local environment (Reitz and Scarry 1985). Men employed as wage laborers on the SP, LA&SL line during construction would have been generally dependent upon their employers for their subsistence due to the remoteness of their work. Wanting to keep a contented workforce, the goal of any subsistence system is to provide a balanced diet that meets the worker's energy needs. Alternatives were few, individuals either cooked for themselves and, perhaps, a small group and/or participated in a company mess. As such, connection to the amenities of life were wagon roads and the rail link to distant urban centers.

Q: Were the domed rock structures used as baking and/or roasting ovens, and do the ovens suggest the maintenance of familiar ethnic foodways in an unfamiliar physical and social environment?

A: Five domed rock ovens recorded at the site were used for baking and, perhaps, roasting. Easily constructed and disposable by abandonment, the five ovens would have provided sufficient quantities of a daily staple, bread, fulfilling both nutritional and emotional (i.e. soothing, warm, familiar) needs. Typical operation of a domed rock oven began with the construction of a fire inside

the vaulted chamber (Costello 1981). Once the fire had subsided and the rocks of the oven walls had become sufficiently heated, the remaining charcoal and ash would have been cleaned out and the floor swept clean. Previously prepared dough loaves would then be placed on the stone floor and all vent and access holes sealed.

Obviously, the number of loaves that could be baked at any one time depended upon the size of the oven. Roughly 12 inches in diameter (Marks 1997, personal communications), each loaf would have occupied approximately 113 square inches or less than 1 square foot of oven floor space. Combined, the five ovens could have produced a maximum of 60 loaves of bread at one firing (refer to Table 3). However, since Feature 43 has a dirt floor with no evidence of an internal grate, this oven remains problematical for the baking of bread. Thus, as many as 46 loaves of bread is offered as a reasonable estimate for one firing for five ovens. Depending also upon the estimated number of 112 men in camp (refer to Table 1), but probably fewer, it is suggested that each of the ovens were in daily use to provide bread in enough quantities to satisfy camp needs.

Considering that the whole process from heating to baking at one oven might consume 2 $\frac{1}{2}$ to 3 hours (Costello 1981), this would have been a heavy burden on one baker with an assistant to maintain five ovens. As a result, one person was probably designated as a baker for a group of men and was responsible for that group's oven, suggesting that the camp was divided into compatible and cohesive work or tent-mate units. This interpretation is consistent with material provided by Wegars (1991).

Additionally, recent ethnoarchaeological observations in Greece provide that ovens normally used for baking bread could also be used for the roasting of meat (Marks 1997, personal communications); the majority of charred and uncharred meat bones were recovered from the ovens.

It is safe to assume, however, that bread was a daily staple and part of the subsistence patterns at this camp. The presence of the domed rock ovens and the consumption of bread may reflect the partial maintenance of familiar ethnic foodways by workers of Mediterranean descent.

Q: Is there evidence of a company mess tent in which common meals were prepared and served?

A: Surface recording and excavation of selected tent pads failed to definitively assign the presence of a company mess tent and/or cook shack. It is reasonable, however, to assume that one was present based on the proximity of a large can dump, TC-3, containing a high concentration of regular and industrial size food cans and the presence of a relative high proportion of ceramic wares at the east end of camp. Based on this minimal evidence, the most likely location for the cook shack and dining tent is at Feature 46, the second of the largest pad features, measuring 17 by 21 ft. A domed rock oven is located just west of the tent pad. A company/contractor provided cook may or may not have been responsible for overseeing the production of bread, being too busy in the preparation of meals.

Q: Is there evidence to suggest that workers could prepare their own meals at or adjacent to habitation structures? If so, is this meal preparation and consumption or snacking behavior?

A: Unlike wage laborers in western mining centers who had a choice of where and what they ate, often separate from where they slept, railroad construction crews would have been limited in choice of menu as to what the cook had prepared for that day. An alternative, however, to the employer-operated cook shack was providing their own meals which seems to be present at this camp. Based on the presence of fish/sardine, meat, fruit/vegetable, and evaporated milk cans generally scattered across the site, but more specifically associated with tent pads, hearths, and trash

concentrations adjacent to habitation structures, it is likely that some of the workers prepared: 1) their own meals either individually or in small groups; or 2) is evidence of snacking behavior between company/contractor meals. Snacking behavior may have also supplemented company mess both in personal taste and in quantity of caloric intake necessary to participate in strenuous railroad construction activity. In either case, consumption of food products outside of employer-offered meals was probably facilitated by a supply tent or nearby vendor.

Q: Is there evidence of a camp supply tent?

A: Myrick (1992:631) states that supply tents were established at each construction camp. Although some smaller camps may not have had supply facilities, larger camps such as the study site would surely have had commodities for sale. No archaeological evidence, however, was found at this camp to suggest either the presence or absence of a supply tent. If present, workers would most likely have purchased canned food products as well as other personal and clothing supplies. If not present, then workers may have been able to obtain necessities from the nearby Arden siding and camp. Another speculative possibility is that of a traveling salesman with a wagon loaded with supplies made visits to various camps. Generally, it is not known if the supply tents were company owned and managed in an effort to retrieve some of their expended wage money or if these were private entrepreneurial outfits licenced to operate within the camps; this and other supply questions remain an archival research topic.

Q: Is there evidence that alcoholic beverages were available and consumed at this location?

A: Alcoholic beverage consumption was a major part of the railroad construction camp subsistence (recreation?) pattern. Although it has been suggested that consumption of alcohol was not allowed in association with the construction of the SP,LA&SL (Paher 1971), a sober workforce

being desirable in the completion of a major project, there is undeniable evidence at all of the identified railroad-related camps in southern Nevada that this was not so. In reality, private entrepreneurs set up their portable saloons and moved with the railroad camps as they completed their construction tasks. One reporter appropriately commented,

“When a saloon man starts to build the first thing he puts together is the bar. Then while the sides and roof are going up business goes merrily on. Hammer raps sound with the clinking of the glasses, there is sawdust in the beer and nails in the lunch, but it is all in the game and no one objects” (*The Searchlight* 6/9/1905:4:1).

Evidence was found to support the location of two whiskey ranches, Features 3 and 52, situated peripheral to the camp. Not only did drinking occur at these two locations, but alcohol was consumed right in camp itself. If a no drinking policy existed, it was not strictly enforced.

Q: Was fresh meat available and consumed at this work camp?

A: Archaeological evidence suggests that fresh beef was available to the camp occupants as well as deer and sheep/goat to a lesser degree, providing needed protein to the diet. Helen Stewart and the “Los Vegas Ranch” is recorded as a convenient source of fresh beef, being sold to the railroad on a daily basis. Whole, sides, and/or beef quarters were probably delivered directly to the camp where the camp cook saw-cut the carcasses up into smaller portions as needed. Analyzed beef bone identified the mid-section or the ribs and loin as the most common part of the beef consumed. These portions of the beef are ranked as high quality cuts being prepared as rib roasts and/or pan-fried and broiled steaks. The hindshank and foreshank are lower quality cuts, best cooked in a liquid base for soups and stews (Ashbrook 1955; Schmitt and Zeier 1993). At least one leg of lamb was roasted or pan-fried and consumed in camp.

Surprisingly, deer was also occasionally on the camp menu. Any number of questions can

be posed for the presence of deer in camp. For example, were railroad workers allowed to hunt during off hours, perhaps explaining the presence of a single 44.40 rifle casing in camp? Did Stewart hire hunters to obtain deer in the mountains surrounding the Las Vegas Valley?

Q: Do the artifacts reflect a dependence upon regional, national, and local markets?

A: Recovered and observed artifacts reflect a dependence upon national as well as local sources. Canned food and liquid refreshments were coming from as far away as New York and Milwaukee. Pickles and chocolate syrup were imported from New York and California, respectively. Although not evident from can embossing, potted meats and fish/sardines may have been imported from international markets. The "Los Vegas Ranch" was providing a local supply of fresh beef and vegetables.

Q: Is it possible to suggest what the average diet was at the work camp?

A: Subsistence patterns at the camp are evident in the archaeological data. It is likely that bread was prepared in five domed rock ovens and was a daily staple in the camp. Fresh, high quality cuts of beef from the mid-section were being prepared as well as soups and stews from lower quality cuts. Some cuts of meat may have been roasted in the domed rock ovens. Canned goods of all sorts, including fish/sardine, and evaporated milk were abundant. Some specialty items such as Bishop chocolate syrup and Roncoroni pickles suggest that specialty items were also available and consumed by camp occupants. Fresh vegetables such as onions and sweet potatoes were locally available from the "Los Vegas Ranch." Personnel could eat at the contractor mess or prepare their own meals over the numerous hearths. Meals prepared over the hearth may also indicate snacking behavior to supplement the company mess both in taste and quantity of caloric intake. All in all, subsistence patterns points to a well balanced diet high in calories as needed for a railroad work

force.

TECHNOLOGY

Technology and technological change and variability is a research domain common to both prehistoric and historical archaeology. Not unlike mining and any other industry, railroad technology varies from simple hand tools to complex industrial machines. Like mining, railroading can be defined by the engineering, construction, operation, and maintenance of the system for the purpose of extracting economic value in an efficient and cost effective manner (Hardesty 1988). Writing an early history of the SP, LA&SL, Kirk (1934:34) states that 3000-foot sidings were provided every five miles. The normal width of the roadbed for the single track was eighteen feet with gravel ballast eight inches deep under the crossties, filled level with the tie tops, and spread eight inches beyond the end of the crossties before sloping off.

Q: What have we learned concerning railroad construction techniques as revealed at this camp?

A: Feature and material remains associated with main and siding grades reveal much about the construction technology of this shoo-fly alignment. Although the siding is approximately 3,200 feet in length, the siding is only 2 to 2.5 miles from the next closest siding located northwest at Arden. Any evidence of the next shoo-fly siding to the south has been destroyed by the construction of an interstate highway that shares the same alignment as the shoo-fly. Crossties were placed directly on the ground and locally derived rounded gravel ballast was spread between the ties spaced at 14 to 16 inch (24 inch centers) intervals. A washed out section of the parallel grades at the west end of the camp failed to reveal in profile any discernable subsurface stratigraphy of grade construction.

The presence of a seven weathered grade stakes provides placement of construction elements and features (Figure 19). In cross-sectional view, the centerline for the main and siding grades are 16 feet apart, the outside edges of the ties are an additional 4 feet beyond the centerline (24 feet from outside to outside tie edges). The center for outside drainage ditches are an additional 3 feet beyond the edge of the ties. Assuming a standard 8-foot crosstie was used, the internal space between the main and siding alignments to a shallow depression scooped for water drainage is eight feet. The linear distance between observed centerline stakes associated with the siding track was exactly 200 feet; the standard engineering measurements are 100 feet and 10ths of a foot.

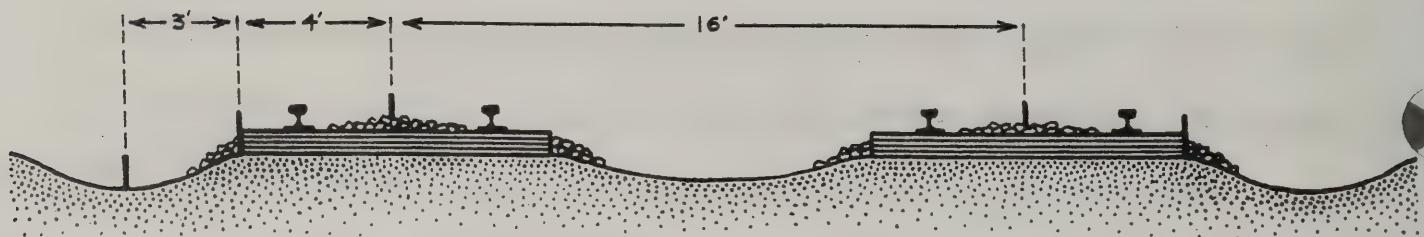


Figure 19. Profile of siding and main track alignments showing lateral spacing of grade stakes.

Q: Are there features present to suggest modification of the environment to overcome physical obstacles and/or adaptation to the surrounding environment?

During construction, the landscape was modified to overcome physical obstacles and to accommodate environmental concerns. A bridge or culvert was constructed at the west end of camp to allow the drainage of water through a major dry wash channel. A minimum of four secondary

drainages, however, were terminated by the construction of a spoil berm on the south side of the main alignment. The track alignments are three feet lower than the south side slope of land as a result of the spoil removal. Surface water runoff is captured and directed to the east by the earthen berm. At the extreme east end of the siding, a cut was blasted in a low limestone saddle to accommodate the main shoo-fly alignment.

SPATIAL RELATIONSHIPS

A primary research objective into site structure and spacial relationships focuses on providing data concerning the organization and use of space at a particular place on the landscape, the site. Data that marks spacial dimensions of the use of space through artifact distribution contributes to the interpretation of general site function, isolates activity loci within a site, and defines site types and settlement patterns on a larger scale. Research into this problem domain operates on the assumption that activities are differentially distributed across the site, and a relationship exists between the types of activities and the types of artifacts deposited during the accomplishment of those activities.

Q: Are there factors of spatial relationships or material evidence to suggest ethnic discrimination and/or a social/class-conscious hierarchy (supervisors, skilled and unskilled laborers?)

A: As briefly discussed above, the site is spatially divided into five loci, two separate entrepreneurial loci and three camp divisions. The east end of the camp is detached from the main portion of the camp by a major truncated, north-flowing wash. It has been offered that Feature 46 was the company mess/cook shack. Additional tent pads, Features 41 and 45, may have supported

cooking activities (i.e. storage and sleeping). Assuming that the east end of the camp was occupied by a company cook and an assistant, it may have been an advantage to isolate them and their activities from the others since preparation of the morning meal would have required a predawn start. An alternative scenario is that the east end was occupied by men of a different ethnic origin, wishing to keep themselves spatially separate from their fellow workers.

To a lesser degree, the main portion of the camp is divided into a central and west sections. This division, however, may be less real than imagined. Generally, the main portion of the camp appears to be homogenous in composition and arrangement. The supervisor apparently chose to reside within the central portion of the camp, Feature 32, among his men rather than separate from them. Except for the eastside and main camp separation there appears to be no visible social or class-conscious hierarchy.

Q: What range of activities are represented by the cultural material and features present at the site, and is there archaeological evidence to suggest the function of the camp?

A: Aside from the whiskey ranches and the domed rock ovens, no specialized activity areas were definitively defined. Feature 3B, 32, and 47 do, however, deserve mention. Feature 3B is a small tent pad joining pad 3A. As no female gender artifacts were identified at any location within the camp, it is thought this small pad was used for storage or as a residential tent for the bar keep. Four writing implements were recovered from and the noting of a suspected ink stain on the dirt floor at Feature 32 hints to this location being that of the supervisor's tent, or at minimum, a literate laborer. Feature 47, a large flat rock, was probably used as a table around which the men of the camp gathered. Referred to by the archaeological crew as "Paymaster Rock," it can be speculated the rock with its adjacent rock seat may have served as the paymaster's table on payday and/or a

poker table by which men lost their money shortly thereafter.

The primary function of this camp remains problematical and undefined. Initially, it was assumed that the camp was associated with the construction of the grade for the siding and main shoo-fly line. Failure to locate a corral area, a blacksmith locus, and artifacts associated with horse culture and/or blacksmithing activities as might be expected to be associated with a grading camp has left the question unanswered. Clearly associated with the Arden to Erie shoo-fly and un-named siding, the numerous tent pads, aside from whiskey ranches, were residential units providing the occupants with temporary shelter. Charcoal and ash deposits within many of the tent pads from wood/coal burning stoves suggest that the camp was occupied during the colder months of the year, probably the winter of 1904/1905. Because of the presence of the domed rock ovens (specialized activity areas), one co-researcher offered that the camp as a whole specialized in baking bread for other nearby camps. This, however, seems unlikely since the ovens produced just enough bread to feed the camp as argued above. Additionally, there are no indications in the form of landscape modification to suggest the camp was a supply center for other areas. Perhaps the camp was simply a residential base from which the workers were transported to other work locations on a daily basis.

Q: How is this site similar or different to other railroad-related sites compared in this study?

A: Site 26CK4842 is both similar to and different from other comparative railroad-related sites. In a comparison of 16 features types found at five other SP, LA&SL work camps (refer to Table 7), the most obvious features not identified at the study site are the blacksmith and livestock areas. Other features not identified at the study site but found at some of the comparative sites include dugouts, privies, pipelines, and cisterns. Similarities include the presence of trash scatters, tent pads, and wagon roads. Of the smaller camps, five tent pads or less, it is thought that they

represent specialized activity camps: No Name and Rock Igloo camps were probably organized to blast railroad cuts in rock outcrops and Vendorville was a private entrepreneurial facility not directly committed to actual construction work. Although associated with the SP, LA&SL, the Water Pipeline Construction Camps were also speciality camps involved with the building of water supply lines for the railroad. Based on size and complexity, the study site is most akin to the Garnet Shoo-fly Construction Camp which is also associated with a railroad siding. Artifact assemblages at the study site are also comparable to the types of artifacts represented and class percentages as expressed at the other sites.

OTHER CONSIDERATIONS

As a result of site mitigation through archaeological data recovery and archival research of known sources, it is unlikely that additional data recovery or further recording at the work camp and siding will provide significant information on research questions posed for the present study. Site 26CK4842 is therefore no longer considered to be eligible for inclusion in the NRHP under Criterion (d) as originally determined in Section 106 consultation between BLM and SHPO. Even though the site is associated with an historic event of importance in the development of the Las Vegas Valley, the site is not enough, in and of itself, to further qualify for NRHP eligibility under Criterion (a). Under Criterion (b), archival research failed to positively identify any person of historical significance directly associated with the site's founding, occupation, or abandonment. Although this 1904-1905 construction camp and siding does represent a site with distinctive characteristics that recur at other railroad camps, the site does not contain enough of the defining characteristics as

presented in the comparisons to be considered a true representative of a particular type under Criterion (c). Because of the mitigation process itself, the integrity of materials, workmanship, and feeling have been compromised eliminating the site from further NRHP considerations.

SUMMARY

During the month of June, 1997, staff from HRC conducted archaeological field investigations at a railroad-related construction camp and siding. The site, 26CK4842, was previously determined eligible for inclusion in the NRHP under Criterion (d). It is scheduled to be impacted as a result of a land exchange between BLM and Olympic, a real estate development company. Associated with the construction of the SP, LA&SL, the site consists of 52 features and 9 trash concentrations. Recorded features include 17 tent pads, a table rock, wagon road, the main and siding railroad track alignments, 28 hearths and 5 domed rock ovens. Surface recording accounted for 2,921 artifacts while excavation of 12 selected features and selective collection amounted to 748 items. Combined archival research and archaeological data recovery was used to address research questions posed for various problem domains including ethnicity, subsistence, site structure and spatial patterning, and technology.

Located on a siding along the Arden to Erie shoo-fly, the work camp is thought to have been occupied during the winter months of 1904/1905, the shoo-fly having been abandoned in May, 1905. Based on the presence of domed rock ovens and archival evidence stating that the railroad construction crews were ethnically diverse, the camp was probably partially occupied by men of Mediterranean descent. In comparison with five railroad-related construction camps, it is not known

what construction function the study site served other than a temporary residential base occupied by up to 112 men; no evidence was found to suggest the presence of women at the camp. High quality cuts of fresh beef, locally obtained from the "Los Vegas Ranch," were being served along with daily bread prepared in five domed rock ovens as well as a standard fare of canned fruits and vegetables. Men may have had the choice of eating in a company/contractor mess and/or preparing meals on their own or in small cohesive groups. Material remains reflect commodities of local, national, and possibly international acquisition. Spatially, the camp appears to be non-regimented and socially cohesive except for a separate grouping of features at the east end of the camp where the mess and cook area are thought to have occurred. Other functional, spatial separations include two entrepreneurial establishments which served alcoholic refreshments to thirsty workers. One whiskey ranch is located opposite the work camp on the south side of the tracks and another is isolated some distance to the east.

Through data recovery, the mitigation process has compromised the material integrity, workmanship, and feeling of the site, eliminating it from further NRHP Criteria considerations. It is unlikely that additional data collecting or recording at the site will provide significant information on research questions posed in this study. Data presented within is intended to be used as a baseline for comparison with other identified or yet to be recorded SP,LA&SL railroad-related construction camps in southern Nevada and California.

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APPENDIX I

Surface Recorded Artifacts

Surface Recorded Artifacts, 26CK4248

Class/Type & Unit	300N / 200W	300N / 100W	300N / 0W	300N / 100E	200N / 200W	200N / 100W	200N / 0W	200N / 100E	200N / 200E
<i>Food & Fd. Storage</i>									
Bone, Lg. Mammal			3					5	
Coffee/Tea						1			
Fish (Can)		4	8	1	1	21	20	22	1
Fruit/ Vegetable (Can)		1	2	25		6	24	28	21
Lard (Can)		1	1	1	1			3	3
Meat (Can)			1	1		11	6	4	1
Milk, Evaporated (Can)	1	14	5	12	11	23	12	14	3
Spice (Can)						1	1		
<i>Household/Domestic</i>									
Basin/Bowl/Bucket	1								1
Clock Part									
Grommet, Tent			1						
Hardware					1			1	
Lamp, Chimney Glass									
Kerosene Can				1				1	
Pressed Glass, Fancy		1							
Pole Spike, Tent									
Water Barrel Hoop	2	1			1	1		3	4
Stove Pipe			1						
<i>Personal</i>									
Tobacco Tin									
Weapon Casing			1	1		1	1	1	
<i>Unknown</i>									
Metal		1	2						
TOTALS	21	34	42	64	38	100	106	116	56

Surface Recorded Artifacts, 26CK4248 (continued).

Class/Type & Unit	200N / 300E	100N / 200W	100N / 100W	100N / 0W	100N / 100E	100N / 200E	100N / 300E	0N / 100W	0N / 0W
<i>Food & Fd. Storage</i>									
Bone, Lg. Mammal									
Coffee/Tea									
Fish (Can)			1	24	2		1	2	7
Fruit / Vegetable (Can)			2	18	5	2	9	1	1
Lard (Can)						2	1		
Meat (Can)				2				2	6
Milk, Evaporated (Can)			1	28	3	8	27		14
Spice (Can)							1		
<i>Household/Domestic</i>									
Basin/Bowl/Bucket							1		
Clock Part							1		
Grommet, Tent									
Hardware									
Kerosene Can									
Lamp, Chimney Glass							16		
Pressed Glass, Fancy									
Pole Spike, Tent									
Water Barrel Hoop				2	2				
Stove Pipe				1					
<i>Personal</i>									
Tobacco Tin									
Weapon Casing							13		2
Unknown									
Metal									8
TOTALS	3	7	19	98	33	33	102	26	103

Surface Recorded Artifacts, 26CK4248 (continued).

Class/Type & Unit	ON/100E	ON/200E	ON/300E	100S/100W	100S/QW	100S/100E	100S/200E	100S/300E	200S/300E	TOTALS
<i>Food & Fd. Storage</i>										
Bone, Lg. Mammal										8
Coffee/Tea										1
Fish (Can)			1							116
Fruit/Vegetable (Can)	2	2	8		1			4		162
Lard (Can)										13
Meat (Can)			2							36
Milk, Evaporated (Can)	6	5	17		1			7		212
Spice (Can)			1							4
<i>Household/Domestic</i>										
Basin/Bowl/Bucket										3
Clock Part										1
Grommet, Tent										1
Hardware										2
Kerosene Can										2
Lamp, Chimney Glass										16
Pressed Glass, Fancy										1
Pole Spike, Tent		1								1
Water Barrel Hoop						1				17
Stove Pipe							1			3
<i>Personal</i>										
Tobacco Tin		1								1
Weapon Casing										20
<i>Unknown</i>										
Metal										11
TOTALS	20	27	53	6	9	1	3	16	0	1,136

APPENDIX II

Surface Recorded Artifacts Associated with Features

Surface Recorded Artifacts Associated with Features, 26CK4248.

Class/Type & Feature	3	5	7	8	9	12	13	14	15	17
<i>Beverage</i>										
Amber		2				1				1
Clear / Lt. Green		1								
<i>Clothing</i>										
Button, Glass/Pearl			1							
Button, Metal					3	1				
Boot Hook/Latch										
Pant Rivet						1				
Shoe/Boot Eyelet/Hook										
Shoe/Boot Heal/Sole										
Suspender										
<i>Construction</i>										
Blasting Powder Can		1				1				
Hose/Pipe										
Insulator, Glass									1	
Lumber: Milled	3	3				1				3
Keg Hoop, Metal			1						1	
Nail, Wire	3	1			1	3	1	1		
Railroad Bolt/Nut										
Railroad Tie Plate										
Railroad Spike										
Screw										
Wire	1	1			1					1
<i>Food Prep./Serving</i>										
Ceramic Bowl, Plain										
Ceramic Plate, Plain										
Ceramic Cup, Plain										
Flour Sifter										
<i>Food & Fd. Storage</i>										
Baking Powder (Can)										
Bone, Lg. Mammal										
Coffee/Tea										
Fish (Can)		1		6					1	1
fruit / Vegetable (Can)			1	4	1	1	1	1		

Class/Type & Feature	3	5	7	8	9	12	13	14	15	17
Lard (Can)										
Meat (Can)	1		2					1		
Milk, Evaporated (Can)			1	1	5		1			
Spice (Can)										
<i>Household/Domestic</i>										
Grommet, Tent										
Hardware	1		1							
Kerosene Can										
Water Barrel Hoop										1
Stove Part/Pipe										
<i>Personal</i>										
Harmonica Part										
Med./Health Product							1			
Smoking Pipe										
Tobacco Tin										
Watch Part										
Weapon Casing										
Writing Implement										
<i>Unknown</i>										
Metal	12									
TOTALS	20	9	8	2	20	10	3	3	3	7

Surface Recorded Artifacts Associated with Features, 26CK4248 (continued).

Class/Type & Feature	18	19	20	21	22	23	24	25	26	27
<i>Beverage</i>										
Amber	1	3								
Clear / Lt. Green		5		1						1
<i>Clothing</i>										
Button, Glass/Pearl										
Button, Metal			1							8
Boot Hook/Latch										
Pant Rivet			1							3
Shoe/Boot Eyelet/Hook										
Shoe/Boot Heal/Sole			1							
Suspender										
<i>Construction</i>										
Blasting Powder Can				1						
Hose/Pipe										
Insulator, Glass										
Lumber, Milled	1	7	1	8						
Keg Hoop, Metal	1									
Nail, Wire		14		14	5	2				10
Railroad Bolt/Nut		1								1
Railroad Tie Plate		1								
Railroad Spike								2		1
Screw			1							
Wire		5								
<i>Food Prep./Serving</i>										
Ceramic Bowl, Plain										
Ceramic Plate, Plain										
Ceramic Cup, Plain										
Flour Sifter										
<i>Food & Fd. Storage</i>										
Baking Powder (Can)										1
Bone, Lg. Mammal		4		12						
Coffee/Tea										
Fish (Can)	1	5		1	3					4
Meat/Vegetable (Can)	1	5		1		3	1			2

Class/Type & Feature	18	19	20	21	22	23	24	25	26	27
Lard (Can)										
Meat (Can)	1	1								
Milk, Evaporated (Can)		4		2		2	1			1
Spice (Can)		1				1				
<i>Household/Domestic</i>										
Grommet, Tent		1	1							
Hardware										
Kerosene Can										
Water Barrel Hoop										1
Stove Part/Pipe		1								
<i>Personal</i>										
Harmonica Part										1
Med./Health Product										
Smoking Pipe										1
Tobacco Tin										1
Watch Part				1						
Weapon Casing										3
Writing Implement										
<i>Unknown</i>										
Metal		1			1	1				
TOTALS	6	62	3	41	9	9	2	2	11	28

Surface Recorded Artifacts Associated with Features, 26CK4248 (continued).

Class/Type & Feature	29	30	31	32	33	34	35	36	37	38
<i>Beverage</i>										
Amber			1	3					14	1
Clear / Lt. Green					2				6	1
<i>Clothing</i>										
Button, Glass/Pearl			1					2		
Button, Metal				1						3
Boot Hook/Latch										
Pant Rivet										2
Shoe/Boot Eyelet/Hook										
Shoe/Boot Heal/Sole			1							
Suspender				2				3		
<i>Construction</i>										
Blasting Powder Can	1					2		1		
Hose/Pipe										
Insulator, Glass										
Lumber, Milled						1				
Keg Hoop, Metal									1	
Nail, Wire	1			5	1	2	7	9		1
Railroad Bolt/Nut										
Railroad Tie Plate									1	
Railroad Spike										1
Screw										
Wire			2	1		3	3			2
<i>Food Prep./Serving</i>										
Ceramic Bowl, Plain										
Ceramic Plate, Plain										
Ceramic Cup, Plain										
Flour Sifter										
<i>Food & Fd. Storage</i>										
Baking Powder (Can)										
Bone, Lg. Mammal									7	
Coffee/Tea										
Fish (Can)				1			1	30		
Vegetable (Can)	2	1		1	1	1	2	8	6	1

Class/Type & Feature	29	30	31	32	33	34	35	36	37	38
Lard (Can)										
Meat (Can)								7	2	
Milk, Evaporated (Can)		1		2		1		13	3	
Spice (Can)										
<i>Household/Domestic</i>										
Grommet, Tent			1							
Hardware										
Kerosene Can					1					1
Water Barrel Hoop						1		1		1
Stove Part/Pipe										
<i>Personal</i>										
Harmonia Part										
Med./Health Product								2		1
Smoking Pipe										
Tobacco Tin								1		
Watch Part										
Weapon Casing							1	6		
Writing Implement			1							
<i>Unknown</i>										
Metal				1						
TOTALS	4	2	6	19	4	8	14	95	31	15

Class/Type & Feature	39	40	41	42	43	44	45	46	48	49
Lard (Can)										
Meat (Can)			1							
Milk, Evaporated (Can)		1	4	2			2	1	3	2
Spice (Can)										
<i>Household/Domestic</i>										
Grommet, Tent										
Hardware										
Kerosene Can					1		1			
Water Barrel Hoop			2					1		
Stove Part/Pipe					1					
<i>Personal</i>										
Harmonia Part										
Med./Health Product										
Smoking Pipe										
Tobacco Tin										
Watch Part										
Weapon Casing		1				1	5	4		
Writing Implement										
<i>Unknown</i>										
Metal		2					4			
TOTALS	17	17	11	6	11	9	38	26	12	10

Surface Recorded Artifacts Associated with Features, 26CK4248 (continued).

Class/Type & Feature	39	40	41	42	43	44	45	46	48	49
<i>Beverage</i>								1		
Amber										
Clear / Lt. Green	2	1			1		1			
<i>Clothing</i>										
Button, Glass/Pearl			1					5		2
Button, Metal						1	5	1		5
Boot Hook/Latch									1	
Pant Rivet										
Shoe/Boot Eyelet/Hook							9			
Shoe/Boot Heal/Sole										
Suspender							1			
<i>Construction</i>										
Blasting Powder Can										
Hose/Pipe					1					
Insulator, Glass										
Cumber, Milled							1			
Keg Hoop, Metal										
Nail, Wire	15			3	6	6	3	10	5	1
Railroad Bolt/Nut										
Railroad Tie Plate										
Railroad Spike										
Screw								1		
Wire			1		1		6	1		
<i>Food Prep./Serving</i>										
Ceramic Bowl, Plain										
Ceramic Plate, Plain						1				
Ceramic Cup, Plain										
Flour Sifter										
<i>Food & Fd. Storage</i>										
Baking Powder (Can)										
Bone, Lg. Mammal		10								
Coffee/Tea										
Fish (Can)										
Fruit / Vegetable (Can)	2	2	1					1	3	

Surface Recorded Artifacts Associated with Features, 26CK4248 (continued).

Class/Type & Feature	50	51	52	TC-1	TC-2	TC-3	TC-4	TC-5	TC-6	TC-7
<i>Beverage</i>										
Amber	1		43	107	1			1	1	25
Clear / Lt. Green	1		20	40				1	1	10
<i>Clothing</i>										
Button, Glass/Pearl							2			
Button, Metal			1			2				
Boot Hook/Latch										
Pant Rivet						1				
Shoe/Boot Eyelet/Hook										
Shoe/Boot Heal/Sole										
Suspender						1	1			
<i>Construction</i>										
Blasting Powder Can										
Hose/Pipe										
Insulator, Glass										
Lumber, Milled										
Keg Hoop, Metal						3				
Nail, Wire		5				3	3	3	1	
Railroad Bolt/Nut					1					
Railroad Tie Plate										
Railroad Spike									1	1
Screw										
Wire	1	1								
<i>Food Prep/Serving</i>										
Ceramic Bowl, Plain					1	1				
Ceramic Plate, Plain			1			2				
Ceramic Cup, Plain						1				
Flour Sifter						1				
<i>Food & Fd. Storage</i>										
Baking Powder (Can)									1	
Bone, Lg. Mammal								4		
Coffee/Tea						1				
Fish (Can)	1						2		6	
Salt/Vegetable (Can)			13		12	336		1		

Class/Type & Feature	50	51	52	TC-1	TC-2	TC-3	TC-4	TC-5	TC-6	TC-7
Lard (Can)						4			1	
Meat (Can)		1						1	3	
Milk, Evaporated (Can)	2	15		35	362	1	2	1		
Spice (Can)										
<i>Household/Domestic</i>										
Grommet, Tent										
Hardware										
Kerosene Can						2		1		
Water Barrel Hoop							1			
Stove Part/Pipe										
<i>Personal</i>										
Harmonia Part										
Med./Health Product										
Smoking Pipe										
Tobacco Tin							1			
Watch Part							1			
Weapon Casing	1								1	
Writing Implement										
<i>Unknown</i>										
Metal							10			
TOTALS	4	11	92	147	50	720	24	14	50	2

Surface Recorded Artifacts Associated with Features, 26CK4248 (continued).

Class/Type & Feature	TC-8	TC-9	TOTALS
<i>Beverage</i>			
Amber		11	219
Clear / Lt. Green		8	103
<i>Clothing</i>			
Button, Glass/Pearl			14
Button, Metal	1		33
Boot Hook/Latch			1
Pant Rivet			8
Shoe/Boot Eyelet/Hook			9
Shoe/Boot Heal/Sole			2
Suspender			8
<i>Construction</i>			
Blasting Powder Can			7
Hose/Pipe			1
Insulator, Glass			1
Lumber, Milled			29
Keg Hoop, Metal			7
Nail, Wire	6		151
Railroad Bolt/Nut	1		4
Railroad Tie Plate			2
Railroad Spike			6
Screw			2
Wire	3		34
<i>Food Prep./Serving</i>			
Ceramic Bowl, Plain			2
Ceramic Plate, Plain			4
Ceramic Cup, Plain			1
Flour Sifter			1
<i>Food & Fd. Storage</i>			
Baking Powder (Can)			3
Bone, Lg. Mammal			37
Coffee/Tea			1
Kith (Can)	2	2	68

Class/Type & Feature	TC-8	TC-9	TOTALS
Fruit/ Vegetable (Can)			415
Lard (Can)			5
Meat (Can)	4		25
Milk, Evaporated (Can)	14		485
Spice (Can)	1		3
<i>Household/Domestic</i>			
Grommet, Tent			3
Hardware			2
Kerosene Can	1		8
Water Barrel Hoop			9
Stove Part/Pipe			2
<i>Personal</i>			
Harmonia Part			1
Med./Health Product			4
Smoking Pipe			1
Tobacco Tin			3
Watch Part			2
Weapon Casing	2	1	26
Writing Implement			1
<i>Unknown</i>			
Metal	1		33
TOTALS	36	22	1785

APPENDIX III

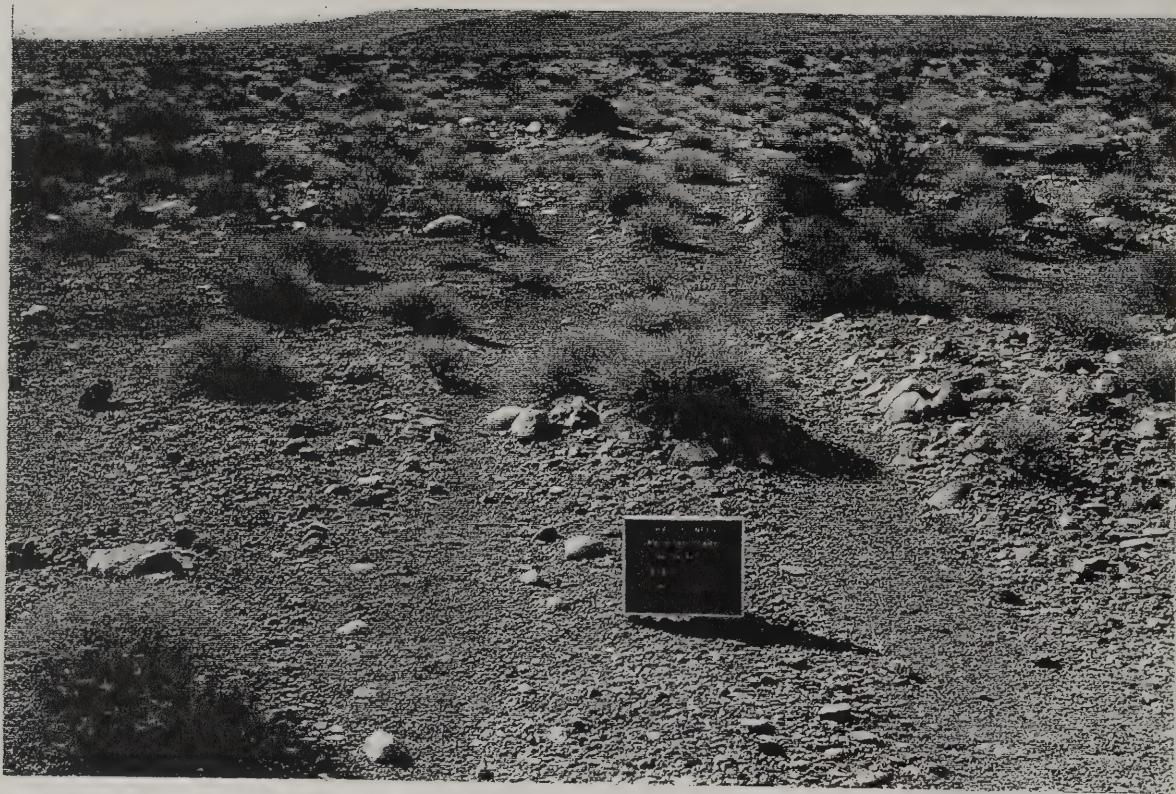
Selected Photographs



Photograph 1. General view of shoo-fly and siding alignments (foreground to vehicle) and work camp (left middle), looking east/southeast.



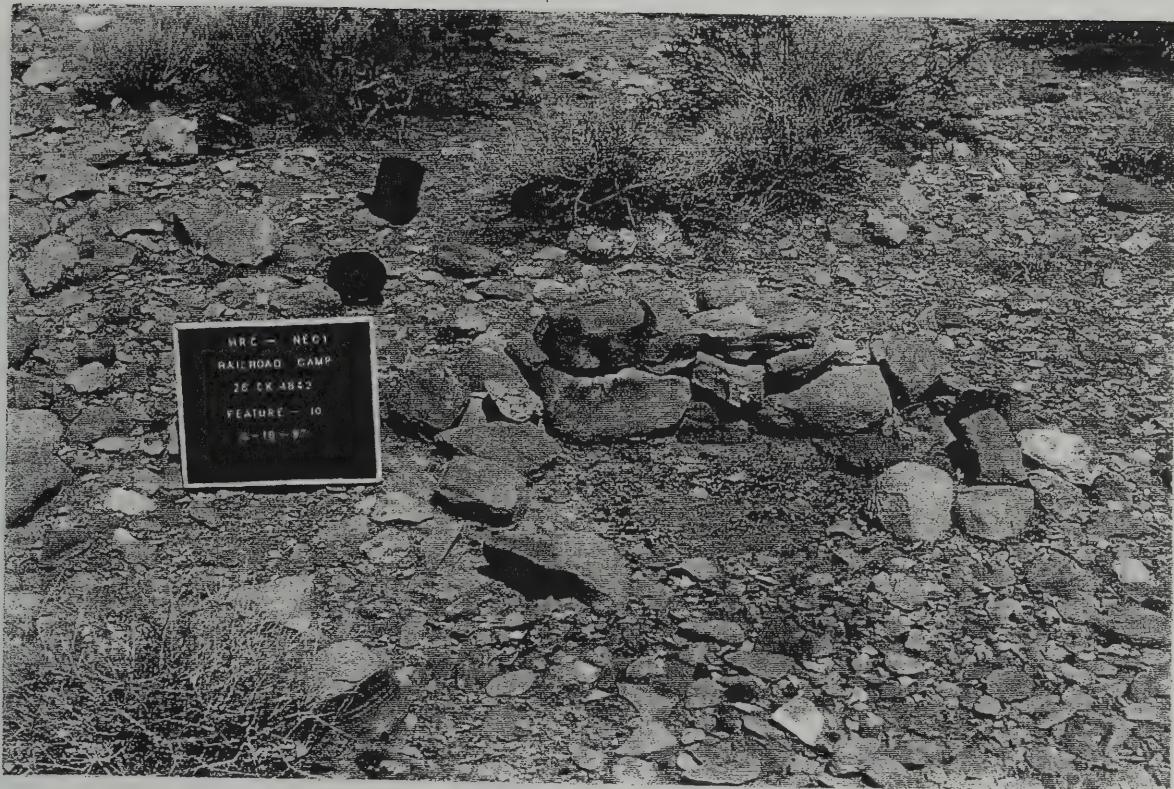
Photograph 2. General setting of construction camp; crew excavating Feature 27, a tent pad.



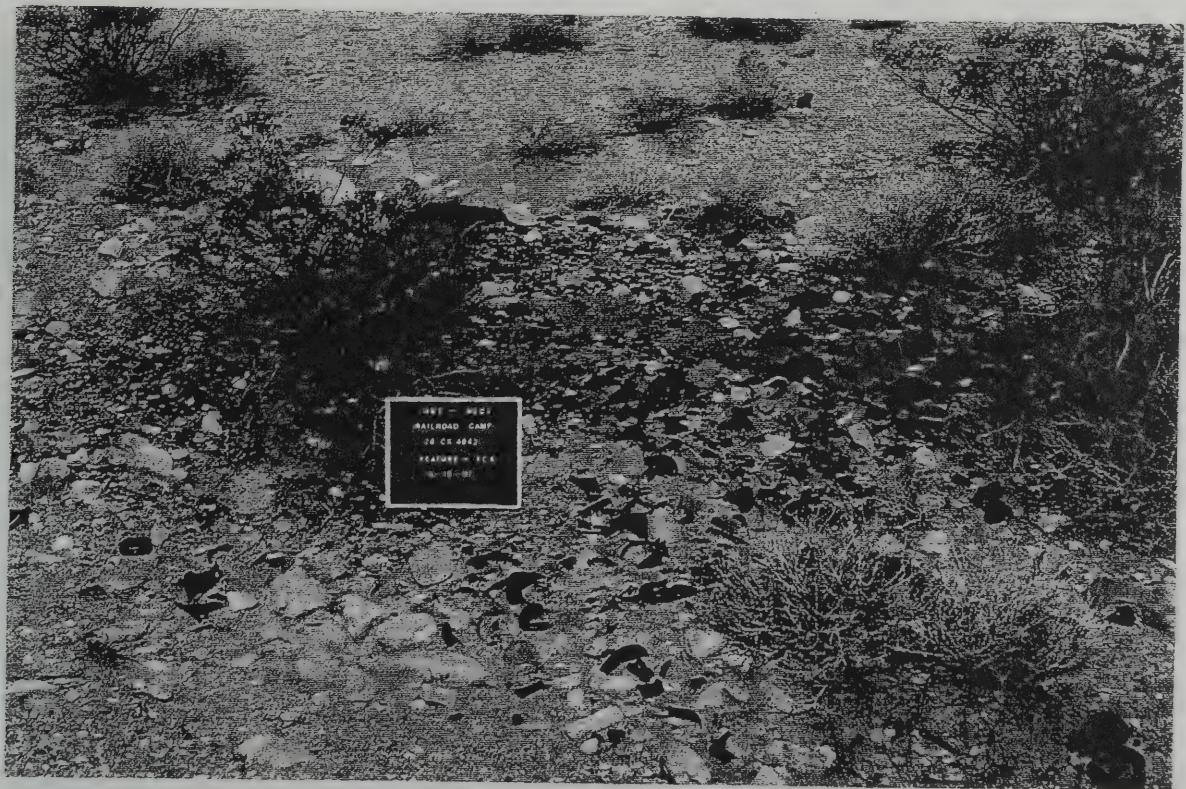
Photograph 3. General view of Feature 1, wagon road, looking southeast.



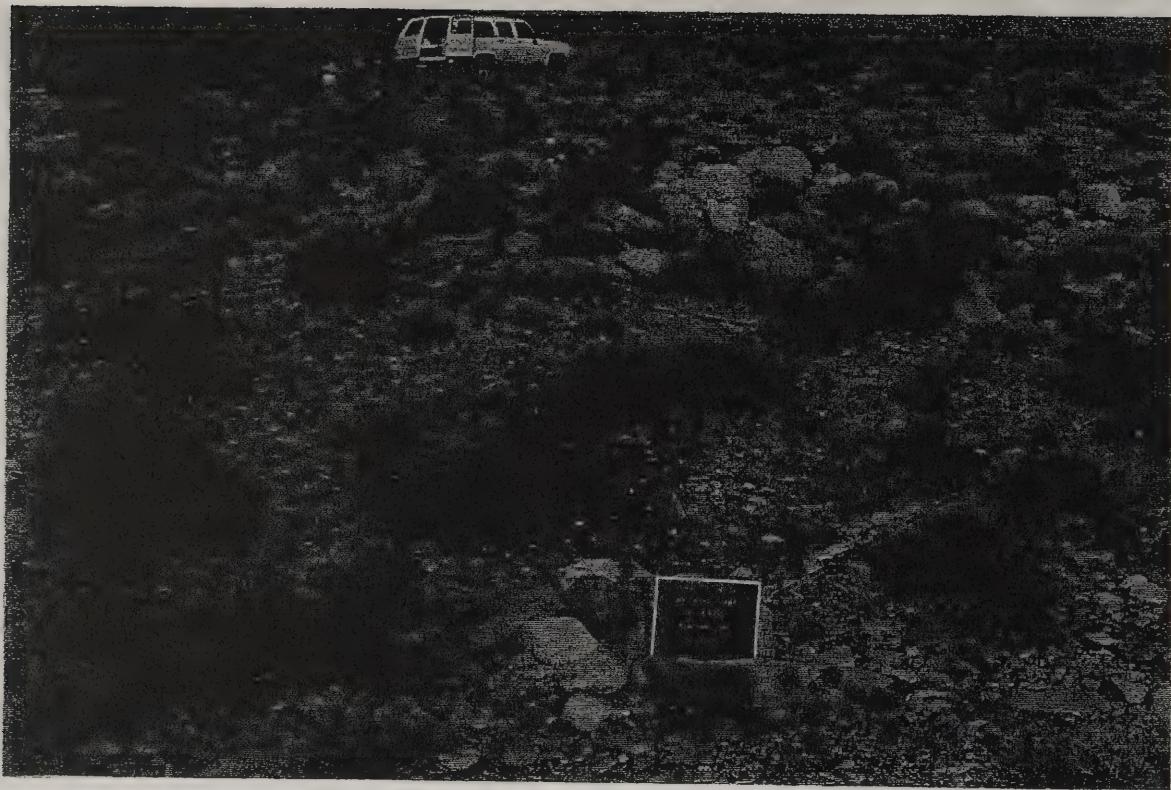
Photograph 4. General view of Feature 2, shoo-fly and siding alignments; note ballast gravel, centerline grade stake in front of photoboard, and plants in former tie locations.



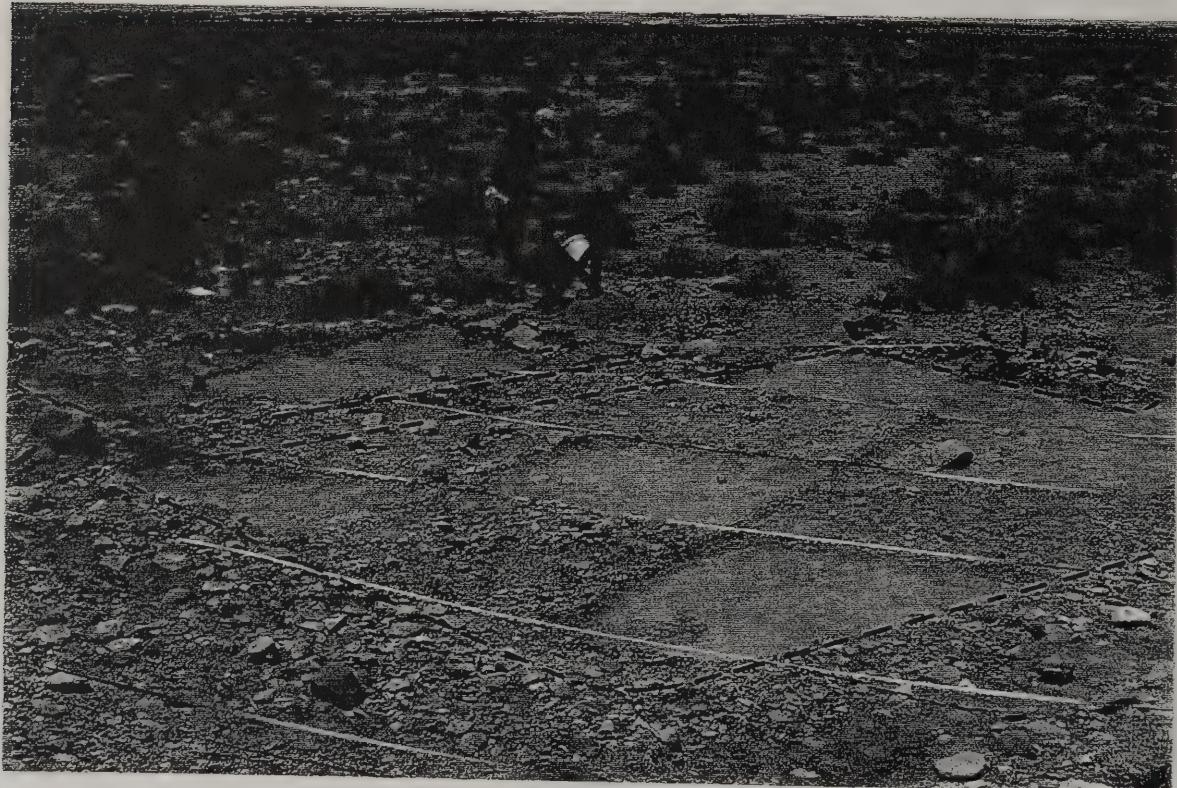
Photograph 5. Feature 10, typical fire hearth represented within the construction camp.



Photograph 6. Trash Concentration 6, typical trash concentration containing charcoal/ash and assorted artifacts.



Photograph 7. Typical tent pad, Feature 41, at east end of the work camp, vehicle parked on railroad grade alignment.



Photograph 8. Excavation of Feature 3a and 3b, side by side entrepreneurial tent pads located south of work camp.



Photograph 9. Excavation of Feature 9, a tent pad in central section of the construction camp.



Photograph 10. Excavation of Feature 27, note post hole left of photoboard.



Photograph 11. Excavation of Feature 32, suspected to be the supervisor's tent pad.



Photograph 12. Excavation of Feature 46, note post hole right of photoboard.



Photograph 13. Feature 23, a typical fire hearth, prior to excavation.



Photograph 14. Completed excavation of Feature 23.



Photograph 15. Domed rock oven, Feature 4, prior to excavation in dry wash at west end of camp, looking southeast toward the construction camp.



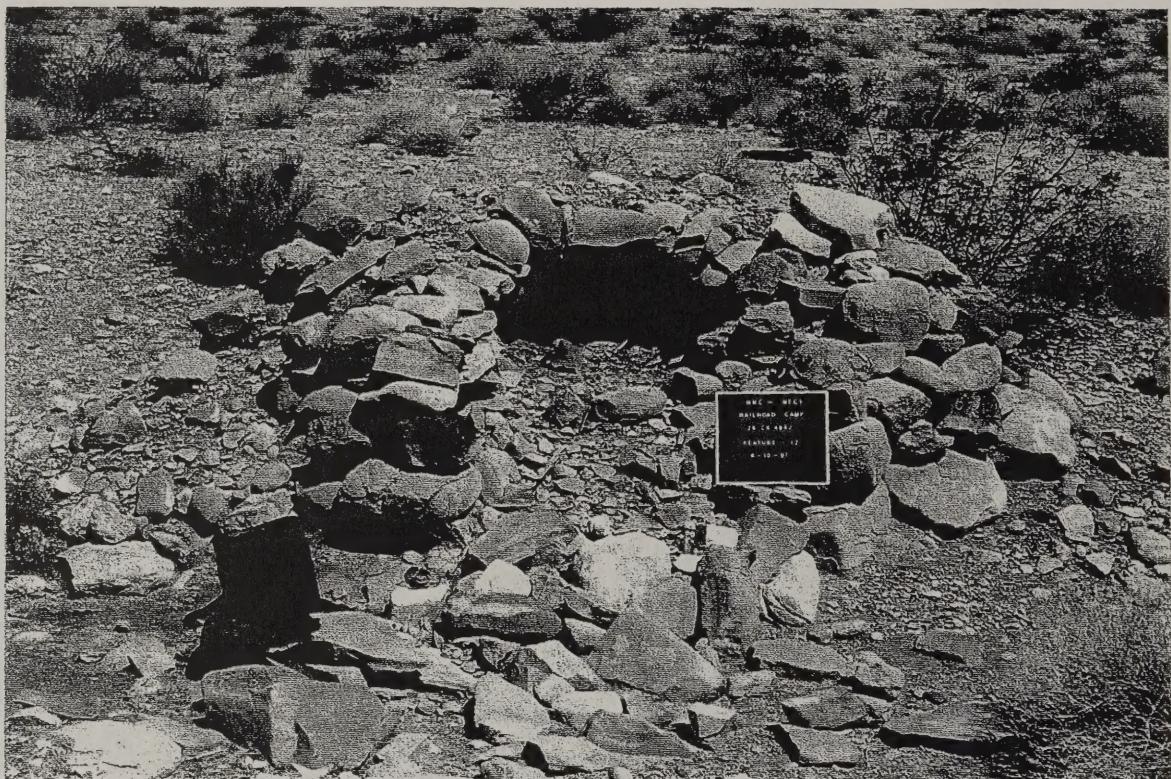
Photograph 16. Completed excavation of Feature 4.



Photograph 17. Collapsed Feature 6, domed rock oven, prior to excavation



Photograph 18. Completed excavation of Feature 6, note iron bar and stone lintel at opening.



Photograph 19. Collapsed Feature 12, domed rock oven, prior to excavation



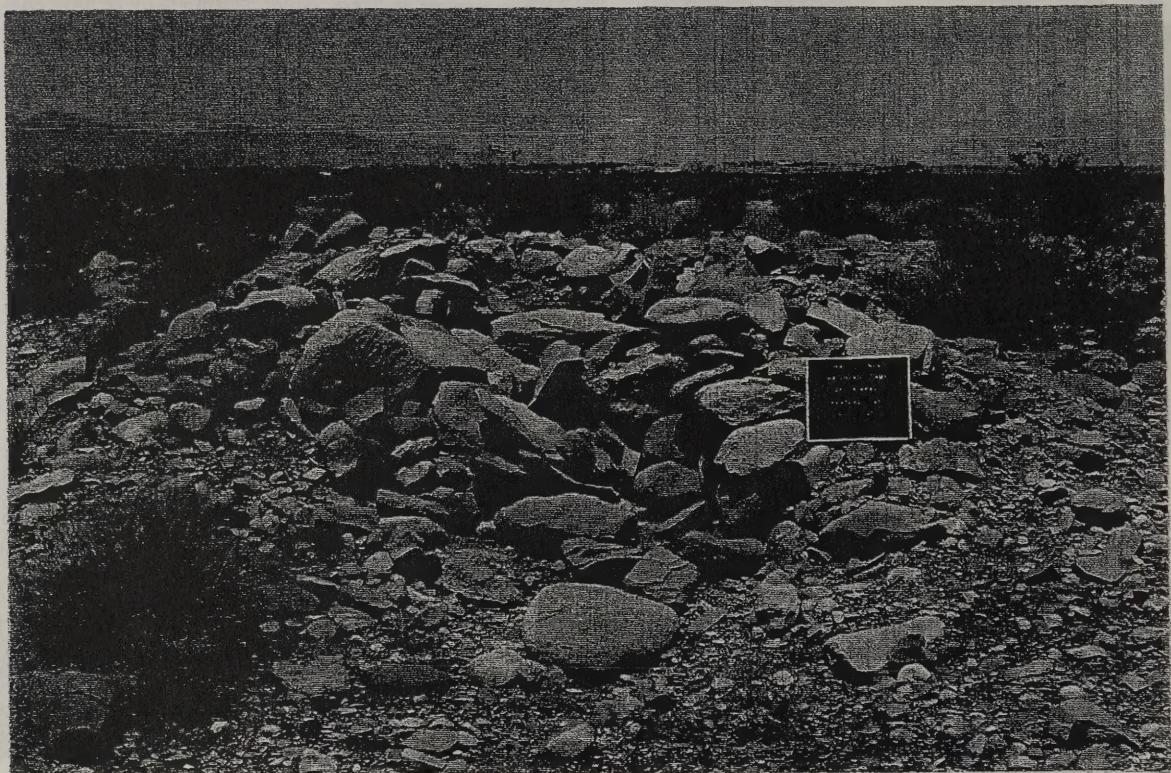
Photograph 20. Completed excavation of Feature 12, note rock lined floor.



Photograph 21. Feature 40, domed rock oven, prior to excavation; note crossed metal plates incorporated into the construction.



Photograph 22. Completed excavation of Feature 40, note rock lined floor.



Photograph 23. Collapsed Feature 43, domed rock oven, prior to excavation looking northwest.



Photograph 24. Completed excavation of Feature 43, note absence of rock lined floor.